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A COGNITIVE APPROACH TO ORGANIZATIONAL SLACK: DEVELOPMENT AND VALIDATION OF THE ATTITUDES TOWARDS SLACK RESOURCES QUESTIONNAIRE (ATSRQ)

By

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A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Warwick Business School

The University of Warwick

January 2018

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ACKNOWLEDGEMENTS

First, I would like to express my gratitude to my exceptional supervisors, Professor Gerard Hodgkinson and Professor Keith Glaister. What I learned from our supervision meetings goes beyond academic matters. Gerard, thank you for your endless patience and constructive criticisms. This thesis has enhanced immeasurably through your detailed comments and suggestions. Keith, thank you for your support and guidance. It has been a privilege to work with you.

I need to thank the participants of my studies. This thesis would have not been completed without their inputs. I am indebted to RADMA for their financial support for data collection.

I would also like to thank the company that has granted me the permission for data collection for Studies 3 and 5. Special thanks go to Emre Ipekli for making necessary arrangements during data collection.

Thanks are also due to my colleagues at Warwick Business School who have helped me through this process. I am particularly grateful to Elvan Gokalp for making this long journey enjoyable and Raouf Bouguerra for insightful debates and exchanges of knowledge.

Last but not least, I would like to record my heartfelt thanks to my family for their full support during this process.

DECLERATION

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree.

ABSTRACT

This thesis integrates the cognitive modelling perspective into the literature on organizational slack by developing and validating a questionnaire-based instrument which measures managers' attitudes towards slack resources. The literature is deeply polarized regarding the role played by slack in organizations. Researchers debate whether organizational slack is a sure sign of inefficiency in the workplace or a necessary cost to enhance the competitiveness of firms. Empirical studies have not been able to resolve this conceptual debate as the results are highly diverse. In order to explain conflicting empirical findings, scholars have made untested assumptions about the interaction between organizational slack and managerial psychology. However, despite repeated calls, managerial cognition regarding organizational slack remains a black box in empirical studies. This thesis addresses this shortfall in the literature by developing a new measurement instrument which reveals managers' attitudes towards slack resources.

The instrument, i.e. the Attitudes Towards Slack Resources Questionnaire (ATSRQ), consists of three five-item subscales reflecting attitudes towards HR, financial, and physical slack and a combined higher-order scale measuring overall attitudes towards slack. It is developed and validated by means of a rigorous and systematic paradigm. The psychometric properties of the ATSRQ are assessed with five empirical studies which provide evidence for the internal consistency reliability, test-retest reliability, convergent validity, discriminant validity, and criterion-related validity of the ATSRQ.

Results of the empirical studies suggest that managers' attitudes towards slack resources are related to some key organizational phenomena, such as managers' trust in employees. The results also reveal that managerial attitudes towards slack resources predict various employee-related outcomes, including leader-member exchange, perceived organizational support, work autonomy, access to resources, and decision latitude. The thesis concludes with a discussion of results, as well as limitations and future research directions.

ABBREVATIONS

AMOS	Analysis of moment structures
ATSRQ	Attitudes towards slack resources questionnaire
CFA	Confirmatory factor analysis
CFI	Comparative fit index
CLVR	Composite latent variable reliability
CMV	Common method variance
DF	Degrees of freedom
FA	Common factor analysis
HLM	Hierarchical linear modelling
HR	Human resources
IGLS	Iterative generalised least squares
KMO	Kaiser-Meyer-Olkin
LMX	Leader-member exchange
ML	Maximum likelihood
NA	Negative affect
OCB	Organizational citizenship behaviour
OLS	Ordinary least squares
PAF	Principal axis factoring
POS	Perceived organizational support
R&D	Research and development
RBV	Resource-based view
RMSEA	Root mean square error of approximation
SAS	Statistical Analysis System
SPSS	Statistical Package for the Social Sciences
SRMR	Standardized root mean square residual
TLI	Tucker-Lewis index
UK	United Kingdom

CHAPTER 1: INTRODUCTION

The aim of this research is to develop and validate a questionnaire-based measurement instrument in order to examine managerial cognition regarding organizational slack. Even though the idea of slack in organizations in the literature dates back to the 1930s (Barnard, 1938), the term, *organizational slack*, was not coined until March and Simon (1958) used it in their seminal work. Due to its significant and complex relationships with other organizational processes and outcomes, organizational slack has received growing scholarly attention, both in theoretical and empirical work. While some scholars see organizational slack as a sign of inefficiency in the workplace (Leibenstein, 1969; Williamson, 1963, 1964), others consider it as a key element for maintaining the survival of organizations (Bourgeois and Singh, 1983; Cyert and March, 1963). Empirical findings, unfortunately, are not able to resolve this conceptual debate on organizational slack as findings are highly diverse. This thesis aims to advance our understanding regarding the role played by slack in organizations by investigating the nature and role of managerial attitudes towards slack resources.

Theoretical perspectives on organizational slack

While organizational slack appears in various economic and organizational theories, most of the arguments regarding organizational slack in the literature rely on two theoretical perspectives: the resource-based view of the firm (RBV) and agency theory. Although these theories are based on fundamentally different underlying assumptions and have opposing views regarding organizational slack,

the psychological characteristics of the members of organizations hold great importance for both perspectives. The following discussion introduces key ideas of the RBV and agency theory perspectives and assesses the impact of managerial and organizational cognition on their approaches to organizational slack.

The resource-based view of the firm

The resource-based view of the firm describes organizations as a collection of resources (Peteraf, 1993; Rugman and Verbeke, 2002; Wernerfelt, 1984). It prioritizes internal dynamics of firms, particularly the possession of resources, in generating competitive advantage. Accordingly, it is argued that competitive advantage arises from strategies pursued with firm specific resources that are not perfectly mobile in resource markets (Ray, Barney, and Muhanna, 2004).

Managerial cognition has great impact on RBV arguments. Barney (1991) notes “it is managers that are able to understand and describe the economic performance potential of a firm's endowments [i.e. resources]. Without such managerial analyses, sustained competitive advantage is not likely" (p. 117). Similarly, Lockett, Thompson, and Morgenstern (2009) argue that managers play an important role in the identification of resource functionality and decisions regarding resource recombination, both of which are critical for achieving competitive advantage in RBV. Firms can exploit opportunities in different markets in a timely manner by using secondary functions of their existing slack resources if managers are aware of the wide range of functionality of resources under their

control. Thus, managerial cognition affects the level of slack resources and also their consequences in organizations (Lau, 2011; Simsek, Veiga, and Lubatkin, 2007).

RBV posits that competitive advantage often arises from novel combinations of resources which lead to the creation of distinctive capabilities (Sirmon, Hitt, and Ireland, 2007), and unique products and services (Lado, Boyd, and Wright, 1992). Among other factors, managerial cognition plays an important role in the successful recombination of organizational resources. First, managers need to be aware of different functions of resources for useful recombination of resources. Second, they should be aware of the type and level of organizational slack under their control in order to recombine resources freely without affecting the current business operations.

To sum up, while scholars favouring RBV support holding excess resources in the workplace, they did not elaborate the impact of managerial cognition in the transformation of slack resources into performance outcomes. This thesis addresses this limitation by revealing managers' perspectives regarding organizational slack.

Agency theory

Agency theory is concerned with hierarchical relationships between principals and agents in organizations (e.g., owner-manager, manager-subordinate) (Brau, 2002; Eisenhardt, 1989; Hill and Jones, 1992; Roth and O'Donnell, 1996). It is argued that the nature of the relationship between principals and agents is shaped by information asymmetry and goal conflict

between parties. Information asymmetry arises from the fact that principals are not able to monitor all the actions of their agents in the workplace and/or they do not have enough knowledge regarding agents' tasks. It is a serious problem in agency theory because of the assumption that principals and agents have different and clashing interests. Since agents are expected to maximize their self-interests at the expense of principals, agency theory supports an adoption of governance mechanisms and policies which minimize adverse effects of information asymmetry.

In agency theory, slack resources are considered as a means for agents to take advantage of information asymmetry between them and principals. Since the opportunistic behaviour of agents in the workplace is treated as the main problem, scholars favouring agency theory support immediate removal of free resources from organizations (Davis and Stout, 1992; Jensen, 1986; Jensen and Meckling, 1976; Fama, 1980).

Agency theory offers a narrow perspective of social exchanges in organizations which leads to an incomplete picture of the consequences of organizational slack. For example, while it singles out the conflict between principals and agents, principals may also have conflicting interests between each other on a wide range of issues, including the accumulation of resources. Even though slack resources might give rise to the expression of opportunistic behaviour by agents, they can minimize the unhealthy competition among principals. Thus, in order to gain better understanding regarding the consequences of slack resources in organizations, it is necessary to examine the impact of

organizational slack on organizational behaviour, especially social exchanges between organization members.

To sum up, the resource-based view of the firm and agency theory have opposing views about organizational slack due to their fundamentally different expectations from members of organizations. Agency theory hypothesizes a static relationship between principals and subordinates where agents are invariably characterized as opportunistic individuals. However, some of the agents might think that "their future fortunes are bound to their current corporate employers through an expectation of future employment or pension rights, then the individual executive may perceive their interest as aligned with that of the corporation and its owners" (Donaldson and Davis, 1991, p.51).

RBV expects that the members of organizations use excess resources in unique combinations to yield competitive advantage. However, there is no explanation of which condition managers and employees would be able or willing to use resources for the success of organizations. It is evident from this discussion that viability of RBV and agency theory assumptions in organizational settings depends on attitudes and behaviours of organization members, especially those holding managerial posts. This thesis investigates the role of managers on the relationship between organizational slack and firm performance by adopting a cognitive perspective. Among its other advantages, the power of cognitive modelling for representing managers' understanding of organizational phenomena (Calori, Johnson, and Sarnin, 1994; Hodgkinson, Maule, and Bown, 2004), and eliciting their personal assumptions and judgements (Fiol and Huff,

1992; Sparrow, 1999; Tyler and Steensma, 1995) are of particular importance for gaining fundamental insights into the decisions regarding slack resources.

Review of empirical work on organizational slack

Organizational slack is employed in empirical studies in different ways. Researchers have studied organizational slack as a moderator (e.g., Barreto, 2012; Dutta, Malhotra, and Zhu, 2016; Ettlie, 1985), mediator (e.g., Simsek et al., 2007), control (e.g., Dooley and Fryxell, 1999; Gaba and Joseph, 2013; Galbreath, 2016; Haleblian and Finkelstein, 1993), and dependent variable (e.g., Gentry, Dibrell, and Kim, 2016). Nevertheless, the main enquiry in empirical studies is to determine the impact of slack resources on organizational processes and outcomes, such as financial performance (e.g., Tan and Peng, 2003), market share (e.g., Ettlie, 1997), risk taking (e.g., Singh, 1986), new patent registrations (e.g., Mellahi and Wilkinson, 2010), innovation (e.g., Nohria and Gulati, 1996), interfirm cooperation (e.g., Combs and Ketchen, 1999b), and corporate bankruptcy (e.g., Daily and Dalton, 1994).

Contradictory empirical results regarding the impact of slack resources have led studies into the factors that may affect the relationship between organizational slack and outcome variables. These factors are investigated along three lines of enquiry. The first is the dimensions of organizational slack. Scholars use various criteria to define dimensions of organizational slack, such as ease of recovery (Bourgeois and Singh, 1983), the level of discretion (Sharfman et al., 1988), and stickiness (Mishina, Pollock, and Porac, 2004). Studies show that

different types of organizational slack may lead to differential impact on organizational processes and outcomes (e.g. Bergh, 1997; Combs and Ketchen, 1999a; Mishina et al., 2004; Singh, 1986).

The second line of enquiry is the operationalization of organizational slack. While some scholars employ lagged slack variables in order to take into account the impact of managerial decisions regarding slack resources on outcome variables (e.g., Alvarez-Gil et al., 2007; Chen and Huang, 2010; Tseng et al., 2007), others employ subjective (Atuahene-Gima, 2005; Atuahene-Gima, Slater, and Olson, 2005; Chattopadhyay, Glick, and Huber, 2001; Dooley and Fryxell, 1999; Nohria and Gulati, 1996) and composite measures of organizational slack (Ang and Straub, 1998; Barreto, 2012).

The third line of enquiry is the intervening mechanisms between organizational slack and firm performance. By arguing that the impact of organizational slack is context dependent, some scholars introduce moderators between slack resources and organizational outcomes, such as CEO stock option remuneration (Alessandri and Pattit, 2014), environmental munificence (Bradley, Shepherd, and Wiklund, 2011), firm age (George, 2005), entrepreneurial orientation (Liu et al., 2014), ownership structure (i.e. venture capital investors) (Vanacker, Collewaert, and Paeleman, 2013), and resource allocation pattern (Cheng and Kesner, 1997).

The last two lines of enquiry (i.e operationalization of organizational slack and intervening mechanisms) particularly highlight the importance of managerial

discretion in the relationship between organizational slack and firm performance. For example, subjective measures of organizational slack aim to quantify slack resources from the manager's point of view, since the impact of slack resources on the strategic direction of the firm depends on the perceptions of managers (Nohria and Gulati, 1996). Similarly, moderators such as entrepreneurial orientation of managers and presence of venture capital investors in firms are proposed primarily because they might influence managerial discretion over slack resources (Bradley et al., 2011). Nevertheless, none of these studies were designed to look inside the black box of managerial discretion regarding slack resources. Instead, they posited presumptions regarding managerial discretion based on various observable characteristics of managers, which are widely criticized as being weak estimators for cognitive values of individuals (Lawrence, 1997; Pitcher and Smith, 2001; Priem, Lyon, and Dess, 1999; Smith et al., 1994). For this reason, this thesis seeks to open up the black box of managerial discretion by revealing managers' beliefs and perceptions regarding slack resources.

Research methods

There is no assessment tool in the extant literature devised to examine managerial cognition regarding slack resources. In order to address this shortfall, this thesis develops and validates a multi-item, questionnaire-based instrument which measures individuals' attitudes towards slack resources. The new instrument, Attitudes Towards Slack Resources Questionnaire (ATSRQ), is

developed through five empirical studies which display the psychometric properties of the ATSRQ in greater detail.

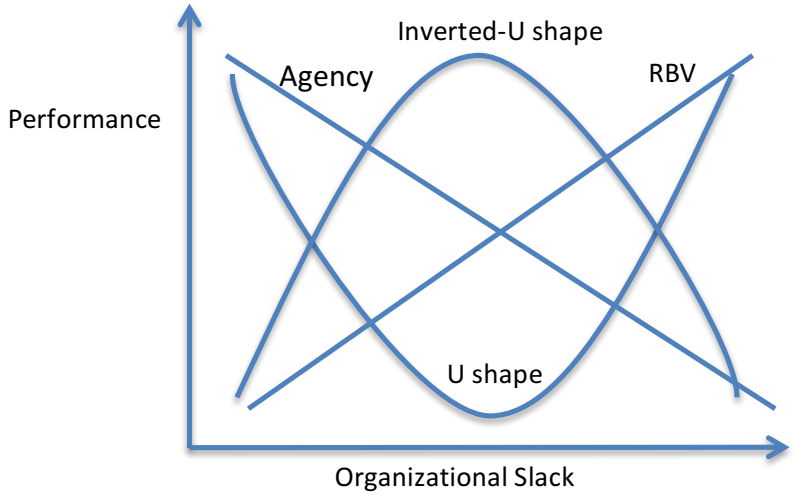
Structure of the thesis

This thesis is organized into six chapters. The next chapter (i.e. Chapter 2) reviews the literature on organizational slack from a cognitive perspective. It explores the viability of the cognitive modelling perspective to examine untested assumptions regarding organizational slack in the literature. Chapter 3 sets out the research methods employed in the empirical studies. Chapters 4 and 5 report the empirical studies, all of which are concerned with the assessment of the psychometric properties of the new instrument. Chapter 4 encompasses three studies which aim to establish the factor structure of the new instrument and evaluate its reliability through various statistical tests. Chapter 5 aims to establish a nomological network of the ATSRQ by providing evidence for convergent, discriminant, and criterion-related validity of the new instrument. The final chapter of this thesis summarizes the implications of the empirical findings. In addition, it presents the limitations of the research and suggest future research directions.

CHAPTER 2: LITERATURE REVIEW

The aim of this research is to examine managerial cognition regarding organizational slack by developing a questionnaire-based instrument which measures managers' attitudes towards slack resources. Presently, researchers are deeply polarized regarding the impact of organizational slack. Some scholars regard organizational slack as one of the key factors that enables firms to respond to environmental changes and adapt to them (e.g., Aaker and Mascarenhas, 1984; Mishina et al., 2004), whereas others consider it as a sign of inefficiency due to the underutilization of capacity (e.g., Jensen and Meckling, 1976; Leibenstein, 1969). My review of the organizational slack literature, presented in this chapter, highlights the inability to resolve this conceptual debate on the basis of the present stock of empirical findings. As Figure 2.1 shows, results of empirical studies are highly diverse, revealing variously positive (e.g., Franko, 1989; Haleblian and Finkelstein, 1993), negative (e.g., Brush, Bromiley, and Hendrickx, 2000; D'Aveni and Ravenscraft, 1994) and curvilinear (e.g., Damanpour, 1991; Geiger and Cashen, 2002) relationship between slack resources and organizational outcomes.

Figure 2.1: Summary of the empirical findings



My intention in this research is not to support any one of the arguments depicted in Figure 2.1 by conducting an empirical study that adopts the same approach as previous studies. Rather, the primary goal of this thesis is to gain fundamental insights into the reasons behind the ambiguous relationship observed in previous work between organizational slack and firm performance. Accordingly, the present research departs from previous studies by adopting a cognitive perspective to reveal managers' varying attitudes towards organizational slack which may be one of the reasons behind the diversity in empirical findings.

Previous empirical studies were typically designed to examine the impact of organizational slack by building direct relationships between slack resources and organizational outcomes, both of which are measured objectively. From a cognitive perspective, this research design is beset by two important limitations, namely, the spurious operationalization of organizational slack due to scholars' endeavours to measure it objectively and the causal gap arising from the untested

decision-making processes regarding slack resources. Accordingly, this chapter reports how these two limitations play a central role in the creation of seeming paradoxes in the literature. At the same time, it assesses the viability of a cognitive modelling approach for overcoming the limitations observed in previous work.

Operationalization of slack resources

One of the serious drawbacks in previous studies, which were often informed by a positivist philosophy, is that managers were treated as "perfect information processors" who could gather and analyse data in an objective manner (Smircich and Stubbart, 1985, p. 725). In reality, however, decision makers are constrained by information processing capacity limitations and operate under bounded rationality (Simon, 1957b). Since the effectiveness of slack resources in strategy formulation depends on their perception by the decision makers, it is crucially important to understand how managers construe and perceive slack resources in which the cognitive modelling perspective appears to hold great promise for unveiling managers' belief systems (e.g., Axelrod, 1976; Hodgkinson and Clarkson, 2005; Nadkarni and Narayanan, 2005).

Aside from a few exceptions (e.g., Bowen, 2002; Nohria and Gulati, 1997; Thomson and Millar, 2001), scholars have attempted to identify the level of slack resources and firm performance with objective measures. However, the concept of organizational slack is construed in individuals' minds and subject to their personal judgements. Objective measures of organizational slack are not able to take into account the idiosyncratic understanding of organizational slack.

The definition of organizational slack further demonstrates limitations of objective measures of organizational slack. Thanks to its polymorphous nature, researchers are able to proffer definitions of organizational slack that reflect their research perspectives, some examples of which are outlined in Table 2.1. Contrary to domain-specific definitions in Table 2.1, organizational slack can be defined broadly as excess resources (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

Table 2.1: Varying definitions of organizational slack in the literature

Author(s)	**Related organizational issue**	**Definition**
Cyert and March, 1963	Maintenance of coalition	"disparity between the resources available to the organization and the payments required to maintain the coalition" (p. 36)
Child, 1972	Maintenance of coalition	"the surplus or margin which permits organization's dominant coalition" (p. 11)
Dimick and Murray, 1978	Managerial discretion	"excess resources which can be used in a discretionary manner" (p. 616)
March, 1979	Changes in external environment	"spare resources and unexploited opportunities which then become a buffer against bad times" (p. 3)
Bourgeois, 1981	Changes in internal and external environment	"cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy, as well as to

		initiate changes in strategy with respect to the external environment." (p.30)
Antle and Eppen, 1985	Resource allocation	"the difference between the budget allocation and the amount that must be invested in the process in order to achieve the targeted return" (p. 164)
Fox and Marcus, 1992	Changes in external environment	"ability to purchase a valuable option" (p. 69)
Stan, Peng, and Bruton, 2014	Continuity in internal workflow	"cushion of spare resources that can act as shock absorbers for the workflow, preventing disruptions" (p. 2)

Although it is possible to measure the *actual* amount of organizational resources (e.g., cash holdings, number of employees, level of inventory, physical assets, etc.), the question of whether such resources constitute *slack*, as such, cannot be determined objectively because what is considered as *excess* is based on individuals' interpretations of reality (Chatterjee and Wernerfelt, 1988). Accordingly, by adopting a cognitive perspective, I hope to unveil the perceptions of managers, i.e. the actors whose views determine the organization's corporate strategies pertaining to the accumulation and use of slack resources.

Black box modelling of managerial decision making regarding organizational slack

Another important drawback of previous studies, which creates a black box in research design, is scholars' proposition of organizational slack as a direct predictor of organizational processes and outcomes, without investigating

intervening processes. Slack resources *per se* do not automatically yield inefficiency or effectiveness in organizations. Instead, the manager, who utilizes (or not) organizational slack, determines both the accumulation and impact of slack resources on organizational processes and outcomes.

Although some researchers have acknowledged the importance of managerial discretion on the slack-performance relationship, they have not yet addressed the crucially important question of the role played by managers' perceptions. Greenley and Oktemgil (1998), for example, criticized their own study on these very grounds.

> "… the measurement of slack was restricted to data from published accounts, and did not include managerial perceptions of available slack resources and how they can be used to achieve strategic advantage. Further research could incorporate managerial perceptions of slack" (p. 395).

McKelvie, Wiklund, and Davidsson (2006) also highlighted the need to address more fulsomely the role of managerial discretion in organizational slack studies, specifically stressing its importance in resource utilization. Similarly, Dong (2016) draws attention to the role of managers in slack resource allocation and argues that

> "examining the performance impacts of organizational resources and ignoring the role of managers in resource allocation may miss the holistic picture. It is the interplay of firm-specific managerial

knowledge and organizational resources that generates sustainable competitive advantage" (p. 4361).

Even though 19 years have elapsed since Greenley and Oktemgil (1998) suggested the incorporation of managerial perceptions as a direction for further studies, surprisingly, as far as is known, no researchers, to date, have risen to the challenge. Rather, researchers have continued to treat managerial discretion as something of a black box in the modelling of the slack-performance relationship, which results in seeming paradoxes in the literature that will be discussed next. This thesis aims to open up this black box by examining how decision makers construe variously the nature and sources of organizational slack at their disposal and its attendant links to performance-related outcomes pertaining to their organizations.

Interpretations of the black box of managerial discretion and its consequences

The black box of managerial discretion regarding organizational slack is interpreted in in three distinct lines in the literature. In the first line of interpretation, scholars simply underestimate the impact of managers in the slack-performance relationship in comparison to external forces and do not mention the black box of managerial discretion in their studies (e.g., Hannan and Freeman, 1977; Hendricks, Singhal, and Zhang, 2009). On the contrary, others interpret their empirical results in accordance with their predictions about processes taking place inside the black box. Accordingly, in the second line of interpretation scholars predict managerial actions largely based on their prejudices about managers in

organizations (e.g., Antle and Eppen, 1985; Jensen, 1993). In the third line of interpretation, on the other hand, managerial actions are predicted from the level of organizational slack (e.g., Bromiley, 1991; Ginsberg, 1994; Seifert, Morris, and Bartkus, 2003; Singh, 1986). I now turn to discuss these three approaches in greater detail.

Treating managers as powerless actors to shape the impact of organizational slack

There may be two reasons why scholars have overlooked the role of managerial discretion in organizational slack studies. One is practical: Obtaining access to the top management team is often problematic for researchers and difficult to achieve (Pettigrew, 1992). This can discourage researchers from integrating managerial discretion into their research designs. Another reason may be researchers' perspectives about managers in organizations. Some organization theorists (e.g., population ecologists) posit that managers can play only a passive role in firms' destinies since firms are highly constrained by external forces (see Hannan and Freeman, 1977 for review). Accordingly, managers are viewed as "relatively indistinguishable in their contributions" (Hambrick and Finkelstein, 1987, p.370).

There may be some cases where the impact of managers has little effect on organizational performance, which can legitimize this view of managers to some degree. However, the main feature of organizational slack is that it allows managers to take different courses of action. Despite discrepant views about

organizational slack and its impact on organizations, the majority of scholars agree that slack resources increase the level of managerial discretion in organizations. Thus, treating managers as powerless actors calls into question the value of organizational slack as a construct because the impact of organizational slack appears through managerial decisions.

Scholars have often overlooked the role of managers in the discussion of the buffering effect of organizational slack which is proposed as a mediator in the relationship between the firm and its external environment (e.g., Bourgeois, 1981; Meznar and Nigh, 1995). Theorists favouring slack argue that buffering is mandatory to deal with changes in the external environment. In addition to its important role in economic downturns (Sharfman et al., 1988), buffering is also beneficial in economic growth periods since firms can enjoy favourable market conditions at maximum level (Cyert and March, 1963). Slack allows firms to meet increasing demand in markets they already operate in (Bowman and Hurry, 1993), as well as expanding into new, promising markets (Mishina et al., 2004).

Contrary to slack proponents, some scholars argue that buffers decrease firms' adaptive capacity to changes in the external environment by acting as a barrier between the firm and its external environment. Simon (1957a) demonstrates that buffers shield companies from identifying new competitors' strategies. Consequently, the established firms fail to respond to the threat of new entrants. Singh (1986) highlights the fact that buffers also prevent established firms from identifying and responding to new trends in their industries. Even when the executives of established firms recognize new trends (i.e. threats and

opportunities) at an early stage of development, a high level of work in process (WIP) inventories and finished goods can prevent them from taking the required immediate actions

In order to understand which of the conflicting arguments summarized above account better for the behaviour of organizations, it is essential to elicit managers' understanding of the buffering role of slack since buffering is under the direction of managers. In this regard, adopting a cognitive perspective would help unveil managers' purposes of building buffers; whether to serve new markets or to protect organizations from fluctuations in the external environment which can lead to different consequences as discussed above.

Managers: Loyal servants or self-utility maximizers?

My review of the literature reveals that, due to their fundamentally different approaches to managers in organizations, some researchers who study organizational slack are divided about the effects of managerial discretion. While scholars favouring the agency theory perspective (e.g., Jensen and Meckling, 1976; Leibenstein, 1976) describe managers as self-utility maximizers, scholars who adopt a resource-based view (RBV) (e.g., Bowen and Wiersema, 1999; Wernerfelt, 1984) argue that managers are the ultimate sources of competitive advantage. As organizational slack increases the degree of freedom of managers, RBV and agency theorists posit respectively positive and negative relationships between organizational slack and firm performance. Before moving to the implications of RBV and agency theory in the organizational slack literature, I will briefly discuss

how managers and slack resources are accommodated in the core arguments of RBV and agency theory.

Agency theorists argue that slack resources intensify the conflict between principals (e.g., shareholders) and agents (e.g., managers, employees) in organizations. It is proposed that principals and agents are naturally in conflict because of their goal divergences. Due to information asymmetry, the principal is often unable to evaluate what the agent actually does and how she or he behaves. Since, according to this view, managers are "self-utility maximizers" (Shapiro, 2005, p. 266), organizations need to have governance mechanisms that can detect and minimize "self-serving behaviours" in the workplace (Eisenhardt, 1989, p. 59). Because the establishment of these mechanisms is often expensive (Antle and Eppen, 1985) and ineffective (Dharwadkar, George, and Brandes, 2000), the agency theory solution to the principal-agent problem is the removal of slack resources from the use of managers (Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976).

RBV scholars, in contrast, consider organizational resources as the primary means for the development of sustainable competitive advantage (e.g., Barney, 1991; Wernerfelt, 1984). From the RBV perspective, firms are regarded as a collection of productive resources which are used in various combinations to create valuable services and products. Accordingly, sustainable competitive advantage of firms depends on their capability to consistently offer new services and products which may require different sets of organizational resources. Unfortunately, however, resources can be scarce or completely unavailable in the

external environment when needed. For instance, it is difficult to receive cash flow from money markets during a financial crisis (e.g., Stiglitz, 2003), or to attract talented employees from human resource markets during economic growth periods (e.g., Acemoglu, 1997; Acemoglu and Pischke, 1999). Therefore, scholars favouring the RBV argue that organizational slack is vital to firms due to market failures in the procurement of resources from the external environment.

Although agency and RBV arguments provide important insights about organizational slack, they each offer incomplete propositions about the impact of slack resources on organizational processes and outcomes. Accordingly, agency theory does not explain what happens if the principal-agent problem is overcome, especially in small firms where the owner of the firm is also the main administrator of slack resources.

Similarly, RBV arguments do not explain how managers transform resources to create competitive advantage (Barney and Arikan, 2001; Priem and Butler, 2001). Even if managers are completely trustworthy, there is no guarantee that they are capable of turning resources into desired organizational outcomes. For this reason, rather than taking an *a priori* stand in the debate over whether managers are merely opportunist individuals or loyal servants, this thesis aims to investigate the underlying mechanisms that shape decision making processes of managers regarding slack resources.

The most striking example in the literature on organizational slack regarding researchers' polarized views concerning the role of managers, is the debate on

firm growth. Agency and RBV theorists agree that organizational slack is a facilitator of growth. However, whereas agency theorists argue that managers utilize organizational slack for uneconomic growth, scholars favouring the RBV consider it as a necessity for healthy growth. Penrose (1959), in her classic work, stressed that the demand for managerial resources in organizations increases exponentially in periods of rapid growth and that such demand cannot be met from outside the firm. New managers often require an orientation process that includes some training sessions. Earley and Peterson (2004) maintain that the orientation and training programmes of newcomers are often undertaken with the involvement of current managers of the firm, resulting in lost time that could have been used to support core business operations. Therefore, according to RBV scholars, in order to obviate disruptions in on-going business, firms should hold excess managerial resources that are already oriented to the organization, and ready to be utilized prior to the growth period (e.g., Goerzen and Beamish, 2007; Kor and Mahoney, 2000).

In addition to human resource slack, RBV theorists argue that firms should also hold financial slack to fund their growth projects, and to safeguard against potential problems possibly arising from the need to secure external finances. To raise money externally, managers must convince creditors that their firms will be able to pay their debts in due course. Accordingly, managers are often asked to share critical operational knowledge, with attendant negative consequences for the company. First, the recodification of the knowledge required by potential external investors, in order to render it sharable, is often an expensive process

because typically the knowledge in question is of a tacit nature and embedded in cultural processes and artefacts (Buckely and Casson, 1976; Walsh and Ungson, 1991). Second, because the requisite codified information includes confidential materials, sharing it with external actors risks eroding the firm's competitive advantage.

Agency theorists argue that managers pursue the growth of their firms to generate higher compensation and increase their personal social standing, even when the level of growth they desire exceeds what is in the interest of the company's shareholders. Supporting this line of argument, Murphy (1985) found a positive relation between sales and the salary of top managers. Avery, Chevalier, and Schaefer (1998) demonstrated how managers who lead diversification and takeover initiatives, two of the most common approaches for achieving growth non-organically, enhances their power and prestige in the wider business world.

According to agency theorists (Antle and Eppen 1985; Jensen, 1986, 1988), one way to maintain fiscal discipline, while also enabling the benefits of managerial discretion, is the creation of debt. While firms continue to fund growth projects with debt, managers' discretion on free cash flow is partly controlled with debt repayment plans. Moreover, compared to internally funded projects, debt funded projects are typically of better quality because they require approval from creditors. It should be noted, however, that agency theorists ignore market imperfections when they give recommendations for fiscal discipline. Due to information asymmetry between the debt issuer and the firm, there is always the possibility of biased valuations of the firm and its projects which can cause a

decline of funding for profitable projects due to undervaluation by the creditor. For this reason, firm growth strategies can be suspended if they are solely based on external financing.

In summary, RBV and agency theorists draw completely different conclusions about the consequences of firm growth with the utilization of slack resources. In fact, both theories are based on strong arguments with empirical support. My aim is to introduce the cognitive mind-set of managers as one of the underlying factors which leads to this dichotomy in the literature.

Prediction of managerial behaviours from the level of organizational slack

Having identified discrepant views concerning the impact of organizational slack on firm growth due to scholars' biases concerning managers, I now turn to consider another basis of conflict in organizational slack studies, which is to predict managers' behaviours from the level of organizational slack.

This type of interpretation is often seen in studies where scholars focus on the impact of organizational slack on innovation. Although researchers commonly share the idea that creative and risk-taking behaviours are prerequisites for successful innovation (e.g., Brockhaus, 1980; Martins and Terblanche, 2003), they debate whether slack resources facilitate or inhibit this outcome.

Creativity

Firms desiring to be innovative should motivate the display of creative behaviour in the workplace (Damanpour, 1991); since it is the starting point (e.g.,

Amabile et al., 1996; Im and Workman, 2004; Sethi, Smith, and Park, 2001), or as Chen and Huang (2010, p.412) state, “the raw material” for innovation. Some scholars examine the slack-innovation relationship through downsizing studies. In one, Love and Nohria (2005) stressed that the main aim of downsizing is the elimination of slack resources that inhibits innovation. Another study, Mellahi and Wilkinson (2010) indicated that human resource downsizing results in the loss of organizational memory and low morale among employees, which in turn diminishes the expression of creative behaviours in the workplace.

Agency theorists (e.g., Jensen, 1986; McGrath, 1999), on the other hand, dwell upon unsuccessful projects carried out in organizations to highlight the inhibitory impact of slack resources on creativity. Jensen (1993) proposed that unsuccessful innovation projects, which have been pursued with organizational slack, reduce the incentive of new innovative project initiations. Marucheck and McClelland (1992) state that the loss of productivity arising from unsuccessful projects decreases employee morale, in turn stifling innovation in future work.

However, all of the arguments regarding the impact of slack resources on creativity depicted above are left as untested assumptions. For instance, Mellahi and Wilkinson (2010) did not empirically investigate whether organizational memory or morale actually decrease with downsizing. Similarly, Jensen (1993) did not report past successful and unsuccessful project initiations in organizations to examine their impact on new project initiations.

This thesis aims to present a radical departure from other organizational

slack studies, where researchers make assumptions on behalf of managers, by unveiling managers' own assumptions and beliefs regarding the nature and purpose of slack resources in facilitating innovation.

Risk taking behaviour

Innovation projects often include processes that depart from the daily routines of the organization, which makes them risky ventures for managers. Therefore, risk-taking behaviour should be promoted in the workplace if the enterprise wants to be innovative.

Proponents of slack argue that risk-taking behaviour is abundance-driven (e.g., Franquesa and Brandyberry, 2009; Singh, 1986; Steensma and Corley, 2001). Accordingly, they propose that when the level of organizational slack is high, decision makers tend to try new and risky projects, and when it is low they become afraid of taking risks as they can drive further decline.

In reply to the abundance-driven view, slack opponents propose that risk-taking behaviour is hunger-driven. Hartmann (2006) argues that the scarcity of resources shifts the attention of managers from the threat of loss to the possibility of gains, thereby fostering the taking of risks. By criticizing the abundance-driven argument, Fama (1980) states that organizational slack is an inhibitor for risk taking because it decreases the necessity of risk taking behaviour in the workplace.

Abundance and hunger-driven arguments are challenged by scholars who adopt a contingency view. Unfortunately, however, their criticism is not based on the limitations of studies due to the black box modelling approach. Instead, as will

be seen in the next section, they have introduced another set of arguments regarding the expression of risk taking behaviour, in which managerial discretion is continued to be interpreted with untested assumptions.

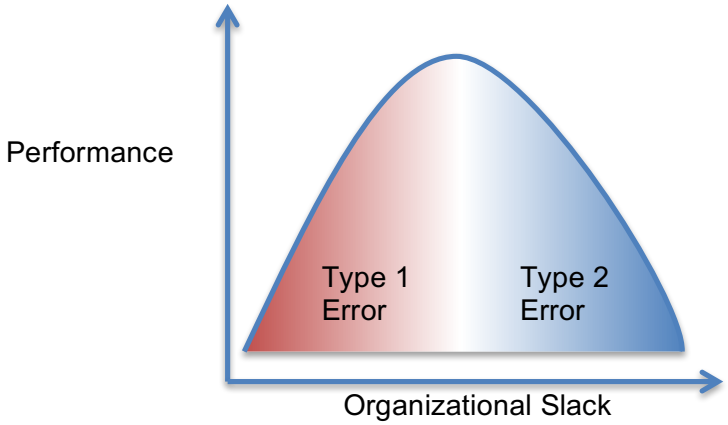
Again, these major differences highlight the urgent need for new perspectives that move the field beyond the black box approach that has dominated the literature on organizational slack. Adopting a cognitive perspective illuminates the underlying role of managers in the accumulation and use of slack resources.

Curvilinear approach as a reconciliation attempt

Rather than taking a stand on one of the two leading theories (RBV vs. agency theory) about organizational slack, some researchers have attempted to integrate these conflicting views by proposing a curvilinear relationship between slack resources and organizational processes and outcomes. The curvilinear relationship argument is based upon positing a trade-off between the efficiency and effectiveness of the firm. Researchers favouring a curvilinear approach argue that there is an optimal amount of slack for every organization where the cost of the trade-off is minimal and the organizational performance is maximal (e.g., Chen and Huang, 2010; Tan and Peng, 2003; Wiersma, in press). Nohria and Gulati (1996) empirically supported the inverted-U hypothesis in the context of an analysis of the relationship between organizational slack and innovation. They identified two types of errors when managers make decisions about new projects in order to explain their curvilinear result. Type 1 errors are said to occur when

managers stop projects that would have been successful if continued, whereas type 2 errors occur when managers continue to allocate resources to failing projects. While low levels of slack are associated with type 1 errors, type 2 errors occur under high levels of slack, as shown in Figure 2.2.

Figure 2.2: Distribution of type 1 and type 2 errors in inverted-U shape argument



Nohria and Gulati's type 1 and type 2 errors are not new ideas in the organizational slack literature. RBV and agency theorists frequently use type 1 and type 2 errors, though without calling them errors, to support their respective arguments. Thus, it can be argued that the curvilinear approach supports theories according to the level of slack resources rather than offering reconciliation. Recast in this manner, the organizational slack-performance relationship is explained by the RBV perspective up to the optimal level of slack. After the optimal level, agency theory accounts better for the relationship.

Once again, it is noticeable that despite alluding to the crucial role of judgment and choice on the part of managers, even this group of researchers has not investigated managerial cognition as the basis for evaluating which projects

are more, or less, likely to succeed, further underscoring why the body of work encompassed in the present thesis is timely. There is an important limitation at the core message of the inverted-U shape relationship due to the omission of managerial discretion. There is no explanation as to why type 1 and type 2 errors occur respectively under high and low levels of organizational slack. For instance, as a counter argument, if an organization has lower slack than desired, managers can pursue ambitious projects to bring it to the target level, which can cause the funding of failing projects (i.e. type 2 errors in low level of slack) (Bromiley, 1991; March and Shapira, 1987). In another case, managers can eliminate new projects to protect existing high levels of slack even if these projects could potentially boost the firm performance (i.e. type 1 errors under high levels of slack). As seen from these two counter arguments, the occurrence of errors cannot be explained merely with reference to the level of organizational slack per se. On the contrary, it is clear that managerial cognition has a major bearing on what managers consider appropriate levels of slack accumulation, how such slack is to be deployed, and to what ends.

Converse to the inverted-U shape relationship, Bromiley (1991) proposes a U-shape slack-performance relationship by arguing that risk taking behaviour increases with extreme levels of organizational slack. His view can be regarded as a compilation of the abundance view of RBV and the hunger driven view of agency theory. Since risk taking behaviour is positively associated with firm performance (via innovation), the slack - performance curve should mirror the slack – risk-taking curve as depicted in Figures 2.3 and 2.4. Again, what this alternative view

highlights is yet another reason why new work is required to probe more directly the cognitive basis of managerial discretion pertaining to the procurement and deployment of slack resources.

Figure 2.3: Risk taking-slack resource relationship of U-shape argument

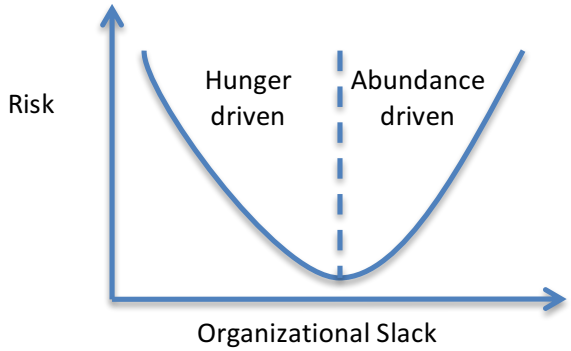
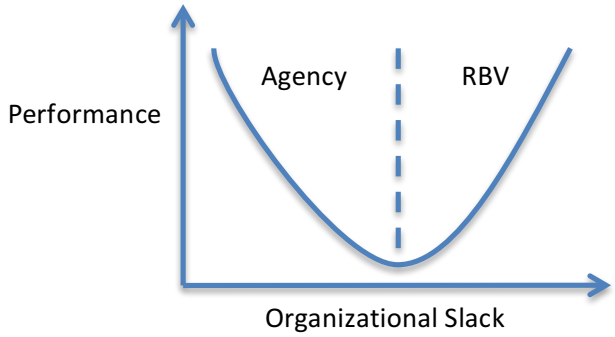


Figure 2.4: Performance-slack resource relationship of U-shape argument



After reviewing various arguments regarding the impact of slack resources on risk taking behaviour, I should stress that I neither agree nor disagree with any of them, because I do not accept they are generalizable propositions. It is erroneous to think that managers in different organizations will exhibit the same behaviours depending on the level of slack resources. Although organizational slack allows managers to select from multiple courses of action, it cannot determine how managers act. For this reason, I think it is time to try new

approaches rather than persist with fruitless efforts to predict organizational behaviours from the level of organizational slack, because there is no such causality between them. In this regard, this research accommodates organizational slack as a means for managers to reflect their preferences in action rather than slack being a determinant of them.

Conclusion

It should be evident from this review that the purpose of this study is not to derive a definitive conclusion from an empirical examination of the impact of organizational slack. Diverse empirical findings and paradoxes from different theoretical perspectives means it is not possible to identify a direct causality between slack resources and firm performance that can be generalized invariantly across all organizational contexts. In this regard, several attempts have been identified in the literature to investigate reasons for the ambiguity in empirical findings. As we have seen, some scholars have attempted to explain the varying impact of organizational slack by proposing the idea that the various types of slack resource lead to differentiated organizational outcomes (e.g., Mishina et al., 2004; Nohria and Gulati, 1996; Singh, 1986; Tan and Peng, 2003). Others, however, have reported that organizational and environmental characteristics, not least the firm's age (George, 2005) and the industry in which it operates (e.g., Greenley and Oktemgil, 1988) determine the impact of slack resources on the outcomes in question.

Whilst each of the studies mentioned above undoubtedly advanced our understanding of organizational slack by providing empirical evidence that the impact of organizational slack is context dependent, they have failed to consider the role of managerial cognition. The present research is designed to address this shortfall in the literature by developing and validating a questionnaire-based instrument which enables the examination of the impact of managerial cognition on slack resources and its attendant links to organizational processes and outcomes.

CHAPTER 3: RESEARCH METHODS AND DESIGN OF THE MEASUREMENT INSTRUMENT

Introduction

The aim of this chapter is to report research methods employed in this thesis. It is organized into three sections. The first section presents the philosophical foundations of the thesis and the rationale for developing an attitude measurement instrument regarding organizational slack. The second section reviews attitude measurement techniques in the literature in order to assess their particular strengths and weaknesses for measuring attitudes towards slack resources. The last section reports the process of item generation, as well as methodological choices regarding the instrument design, i.e., the number of response options and the use of neutral response options.

Critical realism and the investigation of managerial attitudes as an underlying mechanism behind the diverse consequences of slack in organizations

Studies on organizational slack are predominantly conducted with positivist epistemology. As is documented in the literature review, this approach does not lead to a compelling answer regarding the impact of organizational slack as the empirical results are highly diverse. The present research, in contrast, adopts the critical realist epistemology (Bhaskar, 1978, 1989, 1998) to investigate actors' perceptions of the generative mechanisms that underpin the slack-performance relationship. The critical realist philosophy has emerged as a mid-range ontological position between (radical) social constructivism and extreme objectivism

(Hodgkinson and Starkey, 2011, 2012). One of the key features of critical realism that distinguishes it from other epistemologies is its proposition of stratified ontology. Accordingly, Bhaskar (1978) the originator of critical realism, identifies three ontological domains. *The real* consists of generative mechanisms and structures which may (or may not) trigger the occurrence of events in the lower level strata. *The actual* includes events and entities which are not empirically observed. The final stratum, the *empirical*, is a subset of *the actual* in which events are empirically detectable via observation or experiences. Following the stratified ontology perspective, causality, which is reduced to the observable events, often misleads researchers, because generative mechanisms may potentially manipulate the result of the causality that is observed in the domain of empirical. For this reason, Bhaskar (1978) advocates the shift of the focus of research from observed events to generative (underlying) mechanisms. This thesis exactly aims to make this transition in research on organizational slack by examining underlying mechanisms behind the conflicting empirical results observed in the literature between slack resources and organizational processes and outcomes.

In the previous chapter, I argued that managerial decisions regarding slack resources are one of the fundamental underlying mechanisms behind the conflicting empirical results observed in the literature between slack resources and organizational processes and outcomes. In order to gain insights about the impact of slack resources on organizations, it is critical to examine factors affecting managers' decision making regarding slack resources. By adopting a cognitive

perspective, this research aims to reveal managers' attitudes towards slack resources due to their fundamental impact on decision making.

The research of managerial and organizational cognition (MOC) "concern[s] with the processes through which actors acquire, interpret, store, retrieve, disseminate and respond to information in order to make decisions and solve problems" (Hodgkinson, 2008, p. 861). One of the underlying arguments in MOC studies which highlights the critical role of cognition in decision making is the notion of bounded rationality (March and Simon 1958; Simon, 1957b). Accordingly, managers, as other individuals, have limited cognitive capacities which restrict them to absorb and use all of the information that is relevant to the particular decision. They have to simplify the reality through various knowledge structures (e.g. mental models) which guide them in dealing with complex problems (Levinthal, 2011). Since decisions on strategic issues, including the level and utilization of slack resources, are complex in nature, it can be argued that mental models take active roles in strategic decision making by helping managers to take actions in a timely manner. Empirical studies indeed show that managers' mental models influence strategic decisions in the workplace (e.g., Hodgkinson et al., 1999; Porac, Thomas, and Baden-Fuller, 1989; Reger and Huff, 1993; Walsh, 1995) and give rise to heterogeneity of firm performance (e.g., Gary and Wood, 2011; Osborne, Stubbart, and Ramaprasad, 2001; Surroca, Prior, and Tribo, 2016).

Even though decisions regarding slack resources are an important component of strategic management (George, 2005; Lenway and Rehbein, 1991; Voss, Sirdeshmukh, and Voss, 2008), surprisingly, previous research on

organizational slack has mostly undervalued the impact of managerial cognition. There is no existing assessment tool in the extant literature in order to examine managerial cognition regarding organizational slack. In order to address this shortfall in the literature, this research develops and validates a questionnaire-based instrument which measures managers' attitudes towards slack resources, due to the fact that attitudes play a fundamental role in decision making by guiding managers' behavioural intentions (Bissing-Olson et al., 2013; Cameron, Brown-Iannuzzi, and Payne, 2012; Kraus, 1995).

The proposed instrument differs from its counterparts in the literature on organizational slack in terms of its intended aim and applicability across research settings. As can be seen from Table 3.1 below, previous scales of organizational slack are limited to reflect only managers' perceptions of levels of slack resources. They are all self-report descriptive measures that aim to quantify slack resources in a given unit from the managers' point of view. While such measures can be useful for comparison purposes, they are not helpful to identify managers' attitudes regarding the role played by slack resources as determinants of organizational processes and outcomes. The proposed scale, as far as is known, is the first in terms of its intended aim of measuring attitudes towards slack resources.

The only attitudinal measure related to slack in the literature is Onsi's (1973) four-item questionnaire. As can be seen from the sample item, i.e. Slack in the budget is good to do things that cannot be officially approved, the measure is specifically designed to reveal managers' propensity to create budgetary slack for

their business units. Accordingly, it is used exclusively in management accounting studies (Lau and Eggleton, 2003; Merchant, 1985; Nouri, 1994).

While Onsi's measure offers important insights on budgetary decisions in the context of management accounting, it does not cover the same theoretical domain with attitudes towards slack resources. As Glaser, Lopez-de-Silanes, and Sautner (2013, p. 1588) state it is merely concerned with managers' attitudes towards "overbudgeting of capital expenditures". Organizational slack, however, has a wider impact on organizational processes and outcomes, such as innovation (e.g., Nohria and Gulati, 1996), growth (e.g., Tseng et al., 2007), and conflict resolution (e.g., Cyert and March, 1963). Therefore, managers' propensity for creating budgetary slack does not reveal many insights regarding the black box of strategic decisions involving organizational slack and their consequences for organizational processes and outcomes.

Table 3.1: A sample of previous studies with organizational slack scales

Initiator(s) and *Modifier(s*)	Features	Sample scale item
Atuahene-Gima, 2005; *Troilo, De Luca, and Atuahene-Gima, 2014*	4 item, 5 point	"This firm has uncommitted resources that can quickly be used to fund new strategic initiatives." (p. 70)
Chattopadhyay et al., 2001	2 item, 7 point	"To what extent does your organization have easy access to resources for growth and expansion?" (p. 954)
Mallidou et al., 2011	9 item, 5 point	"On my unit, we have enough staff to get the necessary work done." (p. 26)

Nohria and Gulati, 1997; *Dai and Kittilaksanawong, 2014*	2 item, value range: [0,30]	“Assume that due to some sudden development, 10 per cent of the time of all people working in your department has to be spent on work totally unconnected with the tasks and responsibilities of your department. How seriously will your output be affected over the next year?” (p. 607)
Stock, Six, and Zacharias, 2013	4 item, 7 point	"Despite different bottlenecks, our company has sufficient resources to cope with these bottlenecks" (p. 296)

Revealing managers’ attitudes towards slack resources should help researchers to better undertake future studies, which in turn, will advance understanding of the role played by slack resources in organizations. Since the reliability and validity of the proposed scale will be verified in the later stages of scale development, researchers will be able to administer it directly to a sample of respondents without any preliminary work on their part. The next section reviews attitude measurement techniques in order to reveal their particular strengths and weaknesses for measuring attitudes towards slack resources.

Attitude measurement techniques

Research on attitude measurement has received a great deal of scholarly attention, even though it is relatively new to the literature on organizational slack. Scholars have developed various measurement techniques to capture attitudes as accurately and efficiently as possible ever since Thurstone (1928, p. 529) declared in his seminal work that “attitudes can be measured”.

Attitude measurement techniques can be classified into two categories, namely explicit and implicit measures (Karpinski, Steinman, and Hilton, 2005). The former covers traditional self-report measurement instruments (e.g., Likert,

Guttman, Thurstone) which are designed to reveal individuals' attitudes through their deliberate responses. While these measures have undoubtedly advanced our understanding about attitudes, their construct validity has been called into question for attitudes which people do not consciously control and/or have the motivation to report them accurately (Cunningham, Preacher, and Banaji, 2001; Greenwald and Banaji, 1995). Accordingly, the past three decades have witnessed a surge of interest in the development and use of implicit measures. One of the arguments that forms the basis for the use of implicit measures is that some attitudes operate primarily at nonconscious levels, which make them inaccessible through introspection (Hofmann et al., 2005; Wilson and Brekke, 1994). Thus, using explicit techniques to measure attitudes that are formed primarily through implicit cognitive processes causes erroneous representations of mental models (Uhlmann et al., 2012).

Another argument is that participants may intentionally distort their responses, especially when they have fears about their scores (e.g., evaluation of jobs, managers) and/or the research covers socially sensitive domains (Gawronski and De Houwer, 2014). Studies show that implicit measures are less susceptible to deliberate distortion than explicit measures (e.g., Leavitt, Fong, and Greenwald, 2011; LeBreton et al., 2007).

Since implicit and explicit measures are based on different underlying assumptions, their relative performance on predicting behaviour varies significantly with the attitudes and behaviours under examination. There are two prominent models in the literature about the predictive validity of implicit and

explicit measures: dual and single representation of attitudes. The former model asserts that individuals hold implicit and explicit attitudes independent of each other towards the same attitude object (e.g., DeCoster et al., 2006; Wilson, Lindsey, and Schooler, 2000). While implicit attitudes influence spontaneous behaviour, explicit attitudes affect deliberate behaviour. In the single representation model, explicit and implicit measures are considered to represent different aspects of the same attitude in a single system (Fazio and Towles–Schwen, 1999; Karpinski and Hilton, 2001). While each measure has unique contribution in the prediction of behaviour, explicit measures are proposed to explain much of the variance in the attitude-behaviour relationship when individuals have sufficient resources and motivation to give deliberate responses (e.g., Dovidio et al., 1997; Fazio et al., 1995).

Despite the differences between the single and dual representation of attitudes, both models assume that explicit measures are better predictors of behaviours and decisions that are based on deliberate evaluation. Generally, managers are not under pressure to make snap decisions regarding organizational slack, which allows the activation of deliberate evaluation processes. Additionally, managers are accountable for the consequences of their decisions regarding slack resources, which motivates them to engage in effortful cognitive processing. Thus, a reliable and valid Likert-type explicit attitude measure is likely to explain a great deal of variance in managerial behaviours related to slack resources.

Due to its clear advantages over other explicit measures (Oppenheim, 2000), Likert scales are the most popular choice for attitude measurement in MOC

studies (Aiken, 1996, 2002; Cohen, Manion, and Morrison, 2013; DeVellis, 2012). Compared with Likert scales, the main weakness of other scaling techniques (i.e. Thurstone, 1928; Guttman, 1944) is that they require a preliminary item sorting process in which items are ranked by judges in terms of favourability. Item sorting is based on the assumption that a panel of judges would agree on the rank of the particular item statements. However, there is no assurance that ranking of the items are independent from the attitudes of the judges (Hovland and Sherif, 1952; Oppenheim, 2000; Zavalloni and Cook, 1965). In addition to the limitation in the item sorting process, the Guttman scaling technique assumes that a participant's agreement with one item implies his or her agreement with more favourable items. However, scales exceeding six items are unlikely to maintain the cumulative scaling property and shorter scales could provide limited discrimination among individuals (Oppenheim, 2000). On the contrary, Likert scales allow researchers to build lengthy scales if necessary. In addition, they are suitable to examine the dimensionality of the construct of interest (Himmelfarb, 1993). It is one of the reasons behind the selection of Likert-type scaling because there is no *a priori* expectation regarding the dimensional properties of attitudes towards slack resources.

Item development and the design of the measurement instrument

Cognitive tasks in the item response process

Responding to items in explicit attitude measures is a multi-stage process which consists of four main cognitive tasks, namely, comprehension, information

retrieval, judgment, and response selection (for a review, see Krosnick, 1999; Tourangeau, Rips, and Rasinski, 2000). Firstly, respondents need to read and understand the question (i.e. comprehension). Then, they need to retrieve relevant information from the memory and evaluate the question in the light of the retrieved information (i.e. information retrieval and judgment). In the final task, they need to map their judgments onto one of the response choices provided in the scale (i.e. response selection).

The quality of data obtained from explicit attitude measures depends on the extent to which respondents perform cognitive tasks in a diligent and unbiased manner (Krosnick, 1999; Podsakoff, MacKenzie, and Podsakoff, 2012). That is why the new instrument is designed to minimize cognitive complexity and its attendant biases in the item response process. The remainder of this section reports all preparatory work conducted for making the attitude measurement instrument ready to be administered to a sample of respondents. It sets out the rationale behind construct definition and item creation, and also explains the reasons behind the choices in the instrument design.

Construct definition

Scale development starts with a definition of a construct which the scale intends to measure. There are two main approaches for construct definition (Hinkin, 1998; Spector, 1992). In the inductive approach, the construct is defined iteratively through analyses of empirical data. In contrast, construct definition does not involve empirical analysis in the deductive approach. Researchers consult

relevant theories and arguments in the literature to define constructs and generate items. The main advantage of adopting the deductive approach is being able to set up a conceptual model for the measurement instrument, which helps maintain consistency among scale items (Bauer et al., 2001; Bolino and Turnley, 1999; Hinkin, 1995, 1998; Spector, 1992).

Since construct definition relies on previous research in the deductive approach, there should be well-developed theoretical foundations regarding the construct(s) under examination. Helpfully, organizational slack and its hypothesized relationships with other organizational processes and outcomes have been widely discussed in the literature, which allows the adoption of the deductive approach.

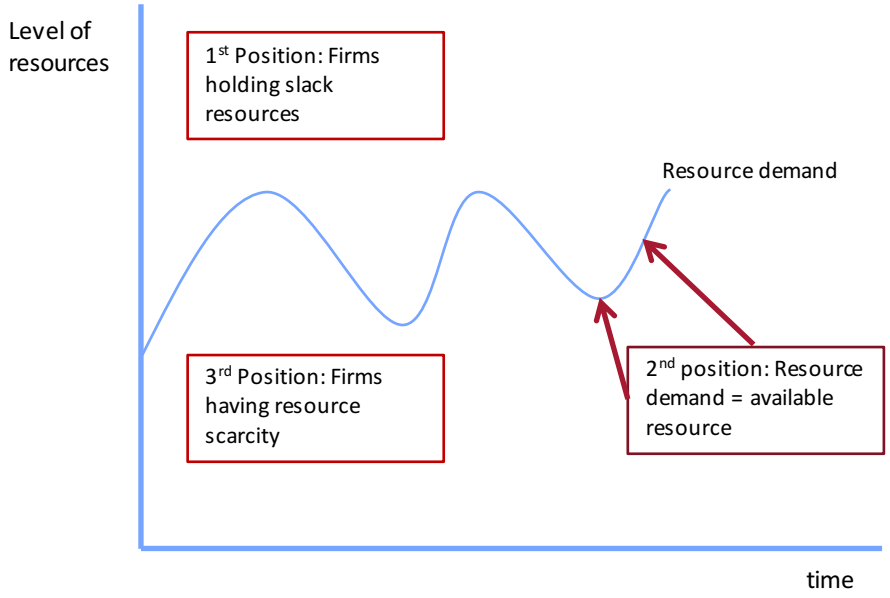
The term *organizational slack* has several definitions in the literature. They have been evaluated with two criteria which are particularly important for the proposed scale. First, an adopted definition should not contain any positive or negative statements about the impact of slack resources on organizations. Otherwise, it would bias respondents' answers by providing guidance. Second, it should be broad enough to cover different aspects of slack resources because, as mentioned earlier, one purpose of this study is to develop a generic scale that can be used in different contexts. Taking these two criteria into consideration, organizational slack is defined as excess resources (e.g., machinery, office space, human resources, land) that firms possess over and above what they require to continue their normal day-to-day business activities. In order to help respondents in the comprehension task of the item response process, the definition of slack

will be provided to respondents, which will help maintain consistency regarding the conceptualization of organizational slack among respondents.

Organizations can be located into three distinct positions according to the relationship between the amount of resources they demand and hold at a time, as shown in Figure 3.1. In the first position, organizations' resources exceed resource demand. This is the position where organizations hold slack resources. In the second position, the level of resources is equal to the resource demand. In the third position, firms experience a shortage of resources to conduct day-to-day business activities.

Items in the proposed scale will cover situations only when organizations hold slack resources because individuals' attitudes towards other resource positions do not reveal their attitudes towards slack resources. For instance, individuals' negative attitudes towards resource scarcity (i.e. 3rd position) do not necessarily indicate that they favour holding slack resources (i.e. 1st position) as their ideal may be to maintain just enough resources to meet requirements (i.e. 2nd position).

Figure 3:1 Resource level positions



Referring to the adopted definition, organizational slack covers different types of excess resources, which makes it potentially a multidimensional construct. While scholars mostly agree on the multidimensional nature of organizational slack, they have used different classifications as shown in Table 3.2. In order to unveil whether managers' attitudes vary systematically with respect to the type of slack resources, each item in my scale reflects a specific type of slack resource. For this reason, a careful classification of organizational slack is crucial to ensure a fair representation of the construct in the proposed scale and balance the impact of each slack resource type in the summated scores of individuals.

Table 3.2: Categorizations of slack resources from selected studies

Author(s)	Dimensions	Slack types	Indicators
Bourgeois and Singh (1983), Geiger and Cashen (2002)	Ease of recovery	Available	Cash and marketable securities
		Recoverable	Excess overhead costs
		Potential	Capital raising ability

Mishina et al. (2004)	Stickiness	Financial resources	Cash and other current assets
		Human resources	Any excess human resources
Nohria and Gulati (1997)	Time of recovery	Short term slack	Excess resources that can be liquidized within a year
		Long term slack	Excess resources that require more than a year to recover
George, 2005; Sharfman et al. (1988)	Discretion	High discretion slack	Cash, cash equivalents, and multi-function machines
		Low discretion slack	Inventory and low flexibility machine capacity
Singh (1986); Tan and Peng (2003)	Absorption	Absorbed slack	Excess costs in organizations
		Unabsorbed slack	Excess liquid resources

Organizations mainly have access to four types of resources: human resources, financial resources, physical resources, and intangible resources. Since organizational slack is defined as excess resources in organizations, excessive amounts of these four types of organizational resources define the dimensions of organizational slack. Accordingly, *human resource slack* denotes organizations' excess employees. *Financial slack* denotes excess cash reserves in organizations. While scholars use various proxies to measure financial slack, most of them are not compatible with the adopted definition of organizational slack. Accounts receivable, for instance, is frequently used as an indicator of financial slack in previous studies. It is an amount of money that is planned to be collected from customers. Since it is already a part of daily business operations, it is not classified as financial slack in this study. Another example is cash reserves. Organizations use some portions of their cash reserves to cover daily payments. Thus, it is not

appropriate to classify the whole amount of cash reserves as financial slack. *Physical slack* corresponds to an excess of organizational resources which are described as fixed tangible assets in balance sheets, such as land, equipment, buildings, and inventory. Finally, *intangible slack* denotes an excess of intangible resources that organizations hold. Hall (1992) lists the intangible resources that are commonly observed in organizations which are patents, copyrights, registered designs, trademarks, reputation, and company culture. Of these resources, intangible slack includes only the ones that firms can have an excessive amount. For instance, firms cannot stock excessive amount of company culture or reputation because they unavoidably affect on-going business practices in varying degrees. On the other hand, firms can have patents that are not in use. For this reason, intangible slack is limited to the excess of patents, copyrights and trademarks in organizations.

The popularity of organizational slack in management and organization studies mainly emerges from its anticipated relationship with various organizational processes and outcomes (Daniel et al., 2004). Since attitudes are formed through evaluations (Eagly and Chaiken, 2007; Petty, Wegener, and Fabrigar, 1997; Vogel and Wanke, 2016; Wilson et al., 2000), the new measure reveals managers' attitudes towards slack resources through managers' evaluations of causal statements regarding the impact of slack resources on organizational processes and outcomes. Thus, each item in the scale hypothesizes a relationship where slack resources show either a positive or a negative impact on organizational processes and outcomes.

Although organizational slack is associated with many organizational processes and outcomes in the literature, it is neither practical nor appropriate to include all of them in the scale model. Two criteria were set to identify item contents in the scale. First, items should not comprise theoretical abstractions with which managers are not familiar. Second, managers' evaluations of causal statements should be able to reveal their attitudes towards slack resources. If it is not known beforehand whether managers are pleased with the occurrence of the selected outcome variables, revealing managers' evaluations regarding the impact of organizational slack on these outcome variables does not display managers' attitudes towards slack resources. For instance, corporate social responsibility (CSR) and its affiliated constructs (e.g., philanthropy) were eliminated from the scale, because managers may hold different opinions about CSR activities (e.g., Abdul and Ibrahim, 2002; Brammer, Williams, and Zinkin, 2007).

After a careful review of the literature, three outcome variables were selected for the scale: innovation, growth, and conflict resolution. Innovation is often regarded as a positive outcome by managers. It contributes to firms' competitive advantages (Geiger and Cashen, 2002) and increases living standards of societies (Ahlstrom, 2010). However, innovation may also be attributed to job losses due to automation in the workplace, which may trigger resistance to innovation among employees (Piva and Vivarelli, 2009). Since job losses due to innovation mostly occur among blue-collar workers, managers' positive views about innovation are not subject to change.

Slack resources have been employed in a considerable number of studies as a predictor of innovation (e.g., Chen and Huang, 2010; Greve, 2003; Liu et al., 2014; Marlin and Geiger, 2015; Nohria and Gulati, 1996; Troilo et al., 2014; Wiersma, in press). It is proposed that the level of organizational slack affects key organizational behaviours required for innovation, such as creativity (Damanpour, 1991) and risk taking (Singh, 1986). Accordingly, participants' agreement/disagreement on causal statements regarding the impact of organizational slack on innovation reflect their attitudes towards organizational slack.

While growth is mostly welcomed by business stakeholders (e.g., managers, shareholders, employees, government), consequences of growth are not always beneficial for firms. If firms do not precisely plan and implement growth strategies, they can face a number of problems, even failures. In order to avoid misinterpretations, growth always appears with a modifier in the scale, such as *profitable growth* or *unprofitable growth*.

Similar to innovation, scholars have also studied the impact of organizational slack on firm growth (Chakrabarti, 2015; Fry, Steele, and Saladin, 1994; Lin, Cheng, and Liu, 2009; Mishina et al., 2004; Tseng et al., 2007). While some scholars argue that slack resources lead to unprofitable growth due to managers' self-serving desires for growth (e.g., Jensen, 1988), others argue that slack resources are necessary for healthy growth as they help minimize disruptions in on-going operations in the period of growth (e.g., Kor and Mahoney, 2005). Considering the importance of growth in organizations, managers' evaluations regarding the

impact of organizational slack on growth reflect their attitudes towards slack resources.

Organizational slack is proposed to affect interpersonal relationships in the workplace (e.g., Bourgeois, 1981; Thompson, 1967). Asking managers whether they consider organizational slack a cause of conflict in the workplace may help identify their attitudes towards organizational slack.

After defining the boundaries of the scale, there is one more issue to consider before generating scale items, which is the use of negatively worded items. As in most of the methodological choices, there are a number of advantages and disadvantages of using negatively worded items. Starting with the latter, negatively worded items are likely to cause some problems in factor analyses (Doty and Glick, 1998; Marsh, 1996). In their simulation study, Schmitt and Stuits (1985) demonstrated only a 10% misresponse to negatively worded items in a dataset can create artifactual factors. Previous research also shows that cross cultural application of mixed worded scales may lead to confounding results (Steenkamp and Burgess, 2002; Wong, Rindfleisch, and Burroughs, 2003).

Negatively worded items, on the other hand, minimize the acquiescence bias in summated scale scores (Baumgartner and Steenkamp, 2001; Greenleaf, 1992). Some respondents tend to agree with scale items irrespective of their content. By reversing the scores obtained from the negatively worded items, acquiescent respondents receive middle scores and their misleading impact on the results diminishes. Since one of the objectives in scale design is to minimize the impact of

biases on analyses (Gorsuch, 1997; Spector, 1992), I decided to include negatively worded items in the item pool. While negatively worded items pose some threats as mentioned earlier, there are scales in the literature which do not exhibit substantial method effects due to negatively worded items (e.g., Gill and Hodgkinson, 2007; Eisenberger et al., 1986). Moreover, problems due to negatively worded items can be detected during data analyses and, if necessary, these items can be abandoned in an early stage of scale development. Therefore, the pool of items is balanced with respect to the number of positively and negative worded items.

Table 3.3 exhibits the distribution of items in the item pool. Items were generated by following the best practices guidelines (see Converse and Presser, 1986; DeVellis, 2012; Oppenheim, 2000; Spector, 1992) which help minimize ambiguity and complexity, both of which lead to substantial problems in the comprehension of the information conveyed in scale items. Colloquial expressions and jargon were avoided because they may lead to different interpretations and limit the applicability of the scale in a particular population. Each scale item describes a causal statement in which slack resources and organizational outcomes are independent and dependent variables respectively. The total number of items in the pool is 122 (see Appendix 1 for the item wordings).

Table 3.3: Item distribution

	HR	Financial	Physical	Intangible	Total
Innovation	10 (5+, 5-)	10 (5+, 5-)	10 (5+, 5-)	10 (5+, 5-)	40
Conflict resolution	12 (6+, 6-)	10 (5+, 5-)	10 (5+, 5-)	10 (5+, 5-)	42
Growth	10 (5+, 5-)	10 (5+, 5-)	10 (5+, 5-)	10 (5+, 5-)	40
	32	30	30	30	122

Design of the response categories

Before moving to the next chapter, there are two more methodological issues to be discussed in order to complete the design of the new instrument, which are the use of neutral response options (midpoints) and the number of response categories. Opponents of midpoints argue that survey participants may use midpoints as an easy way out which eliminates the necessity of thinking on the item statement (e.g., Klopfer and Madden, 1980; Narayan and Krosnick, 1996; Raaijmakers, 2000). The absence of midpoints, on the other hand, forces participants to agree or disagree with a given statement. However, participants, who are genuinely neutral to the statement in the survey question, are forced to give inaccurate responses if a midpoint option is not provided (Schuman and Presser, 1996). Studies show that midpoints increase the reliability of scales (e.g., Nowlis, Kahn, and Dhar, 2002; Weijters, Cabooter, and Schillewaert, 2010) and enhance the psychometric quality of the data (O'Muircheartaigh, Krosnick, and Helic, 2001). Thus, response options in the proposed scale include midpoints.

While a large number of response options may allow the investigation of participants' psychological differences in greater detail, participants are not able to make subtle distinctions between too many options due to their cognitive

limitations (e.g., Ayidiya and McClendon, 1990; Miller, 1956; Schaeffer and Presser, 2003). In his review of previous scales in scholarly journal articles, Hinkin (1995) reported that the coefficient alpha tends to increase up to five response options and then starts to reduce. Thus, in order to reveal participants' opinions in greater detail while maintaining a high level of consistency, the number of response options is set to five.

Conclusion

The aim of this chapter was to report all methodological choices related to the design of the new measurement instrument. It yielded a pool of 122 items to be administered to a sample of participants on a five-point (1=strongly disagree to 5=strongly agree) Likert-type instrument. Even though I followed the guidelines for best practices in developing items, there is no guarantee that all of the items measure what they purport to measure. For this reason, items need to be assessed with statistical tests which require an administration of items to a number of independent samples. The next chapter reports empirical findings from three studies which evaluate psychometric properties of the items in the pool with data obtained from independent samples.

CHAPTER 4: INITIAL CONSTRUCT VALIDATION OF THE ATTITUDES TOWARDS SLACK RESOURCES QUESTIONNAIRE (ATSRQ)

Introduction

This chapter reports the empirical findings obtained from three studies, the aim of which was to establish the factor structure of the new instrument and evaluate its reliability thorough various statistical tests.

Factor analytic procedures are widely used in scale development studies in order to reduce the number of items in the final version of instruments and investigate their psychometric structure (Floyd and Widaman, 1995; Spector, 1985; Walumbwa et al., 2008). As this is the first attempt to measure attitudes towards slack resources, there is no prior research in the literature examining the structure of attitudes towards slack resources. For this reason, exploratory factor analysis holds considerable promise as a basis for revealing the latent structure of attitudes towards slack resources.

Reliability of the new instrument will be examined from two perspectives, i.e., internal consistency and test-retest reliability. The former is concerned with the extent to which scale items contribute to the assessment of particular constructs. In the present case, the internal consistency of the resulting scales will be evaluated with Cronbach's coefficient alpha (Cronbach, 1951), which takes into account the number of items and the inter-correlations among them. The rationale behind Cronbach's alpha is that items measuring a given construct should have a large percentage of common variance relative to items measuring

different constructs (Cortina, 1993). The first two studies of this chapter will provide evidence for the internal consistency of the new instrument with a student sample (i.e. Study 1) and a work-related sample (i.e. Study 2).

Whereas internal consistency reliability evaluates whether items measure a particular underlying construct, test-retest reliability investigates the consistency of scale scores over time. The final study reported in this chapter (i.e. Study 3) will be devoted to ascertaining the test-retest reliability of the new instrument.

The chapter reports in turn the methodological details and findings pertaining to the three empirical studies. It concludes with a general discussion of the overall implications of the findings obtained from the three studies.

STUDY 1: ASSESSMENT OF THE FACTOR STRUCTURE OF THE ATSRQ ITEM POOL

The complete pool of scale items was submitted to an exploratory factor analysis (EFA) in order to reduce the large number of items to a smaller number and reveal the latent constructs underpinning the manifest (i.e. observed) variables (i.e. the participants' responses to the individual items). The main goal of this exercise was to achieve a parsimonious and reliable instrument, the psychometric properties of which were then compared with the results obtained from a second, independent sample in Study 2.

Method

Sample

The sample for Study 1 was drawn from one of the Russell group universities located in the UK. In total, N=242 participants were recruited, of whom N=147 were female (60%). Their ages ranged from 18.5 to 54.1 (Mean=22.5; SD=4.8). The average work experience was from 2.3 years (SD=3.7). Participants were recruited via the University's online research participation scheme and participation was entirely voluntary.

Response screening, on the basis of the criteria outlined below, reduced the final sample size to N=193. The average age was 23 years (SD=5.2), the average work experience was 2.9 years (SD=4.1), and 60% of participants were female. The composition of the sample in terms of region of origin was as follows; Europe = 55% (including Britain=40%), Asia=32%, Middle East and Africa=10%, and North America=3%.

Heterogeneous samples are more suitable for exploratory factor analysis than homogenous ones; the latter are likely to reduce variance, thus weakening the factor loadings of items (Clark and Watson, 1995; Kline, 1994; Reise, Waller, and Comrey, 2000). The final sample was fairly heterogeneous in terms of the background characteristics of the participants.

Materials and Procedure

The data collection instrument consisted of four main sections: the consent form, 122 organizational slack items, the 33-item Crowne-Marlowe Social Desirability Scale (Crowne and Marlowe, 1960), and a series of biographical questions (the data collection instrument is reproduced in Appendix 4). All participants agreed with the consent form before proceeding to the other sections. The instruments were completed by all 242 participants and there were no missing values in the dataset.

In order to increase the quality of data, responses were screened with three criteria. The first criterion was the level of English proficiency. Participants who declared their English proficiency lower than full-proficiency on a one-item self-report measure (see Appendix 4 for the actual item) were eliminated. The second criterion was work experience. Participants with no work experience are more likely to give random answers to the items due to their limited understanding about slack resources in organizations. Thus, such individuals were removed from the final sample. The last criterion was response time. Participants who completed the data collection tasks in less than 12 minutes (4 seconds per item on average) were excluded from analysis, on the grounds that it was highly likely that due to a lack of attention the resulting data would be of poor quality/errorful.

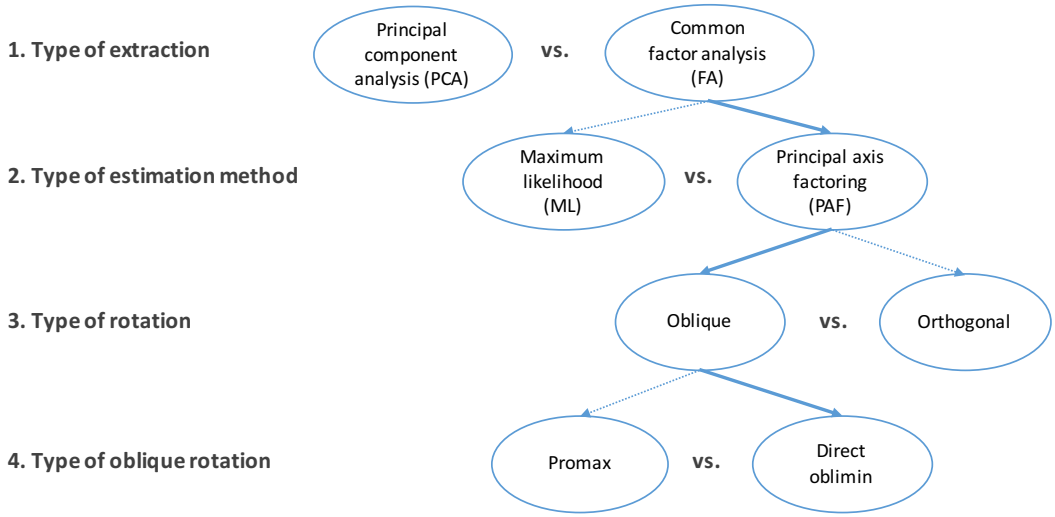
Analytic Strategy

Prior to subjecting items to EFA, an item-screening process was employed to ensure that psychometric properties of the items were suitable for factor analysis. First, 11 items that had correlations less than 0.4 on average to other items were eliminated from further analysis (Hair et al., 2010). Low correlations indicate that items do not share the common theoretical domain which make them unsuitable for factor analysis (Kim and Mueller, 1978). Second, 42 items with a variance of less than 3 and/or which violated the requirement of a normal distribution of responses were eliminated from further analysis. Third, 12 items having moderate-strong (statistically significant) correlations with the social desirability scale were also rejected, in order to ensure that the final version of the new instrument was free of social desirability bias (Kapoutsis et al., in press; Spector, 1992).

Of the initial pool of 122 items, 57 survived the basic item screening process. There were only three intangible slack items remaining after the screening process. The most likely reason that intangible slack items performed poorly is that participants found them more complex to understand compared with the other items. Decisions regarding the impact of intangible slack resources involve a great deal of abstract reasoning which may have been difficult for some of the participants. Since intangible slack items underperformed so markedly compared to the other items, with only three items remaining at the end of this first study, I dropped the three remaining intangible slack items from further analysis.

Thanks to developments in computing technologies, researchers now have a variety of options, enabling them to adopt exploratory factor analytic procedures that fit best with their research design. The main decisions that have to be made for EFA concern the method of extraction, method of rotation, and then which criteria to employ for factor retention and item retention. Figure 4.1 represents the decisions regarding the method of extraction and rotation. The following discussion provides the rationale for each of the decisions, including the ones highlighted in Figure 4.1, that I made in respect of the EFAs reported in this chapter.

Figure 4.1: Decisions regarding EFA



Selected procedure: Principal axis factoring with direct oblimin rotation

There are two broad categories of extraction methods, which are principal component analysis (PCA) and common factor analysis (FA) (Fabrigar et al., 1999; Ford, MacCallum, and Tait, 1986). PCA takes into account all of the variance of items to extract factors. It is suitable only to be used for data reduction because

it does not reveal latent constructs (Borsboom, 2006). FA, on the other hand, differentiates unique and shared variance of items and uses only the shared variance of items to extract factors. As a result, whilst yielding a parsimonious representation, it can also identify latent constructs behind observed variables. For this reason, common factor analysis was employed in this research.

Even though common factor analysis is overwhelmingly recommended in the guidebooks (e.g., DeVellis, 2012; Kline, 2015; Oppenheim, 2000) and research methods articles (e.g., Conway and Huffcutt, 2003; Hinkin, 1998; McArdle, 1990), PCA has been a popular choice in scale development studies. Thus, it is necessary to consider whether there are valid reasons that may lead researchers to conduct PCA instead of FA. One reason is that PCA offers computational efficiency and gives similar results to FA, especially if the number of items or variables exceeds 30 (McArdle, 1990). While this was an important feature for researchers two decades ago, today's computers are powerful enough to compute both forms of analysis smoothly. Researchers can now select between PCA and FA without considering such practical constraints (Stegeman and Lam, 2016; Velicer and Jackson, 1990). Clearly, the computational advantage of PCA over FA has eroded over time.

Another reason for favouring PCA over FA is that PCA appears as the default option in commonly used statistical software packages such as SPSS and SAS (Henson and Roberts, 2006). Researchers, who do not have enough background knowledge to make an informed decision regarding EFA, may simply be selecting PCA as the default options for the analysis. Obviously, scholars'

tendency to select default options is not based on methodological superiority of PCA over FA. In summary, neither of the two reasons found in the literature are sufficiently rigorous to justify using PCA in scale development.

Factors were extracted with the principal axis factoring method. Unlike some of the other common factor extraction methods (e.g. maximum likelihood and generalised least squares), principal axis factoring does not require multivariate normality of data. Additionally, principal axis factoring outperforms rival methods in terms of recovering weak factors (De Winter and Dodou, 2012). Since there is no *a priori* assumption regarding the dimensionality of the new instrument, recovery of weak factors is critically important to draw accurate conclusions regarding the latent structure of attitudes towards slack resources.

The final decision before running a factor analysis is the choice of factor rotation. There are two major classes of factor rotation techniques, namely, orthogonal and oblique. In an oblique rotation the factors are allowed to correlate, whereas in an orthogonal rotation correlations among factors are arbitrarily constrained to approximate zero. In social science, it is more likely to observe correlations among constructs, which, unless there are compelling expectations based on substantive theory that the resulting factors should be orthogonal, makes oblique rotation the more suitable method of choice in EFA studies (Hodgkinson and Sadler-Smith, 2003; Tabachnick and Fidell, 2013). It should also be noted that oblique rotation methods do not force factors to correlate. Therefore, when factors are truly orthogonal, the results obtained

from oblique rotation will approximate those obtained from orthogonal rotation (Conway and Huffcutt, 2003; Floyd and Widaman, 1995; Kim and Mueller, 1978).

As discussed by several leading commentators (e.g. Conway and Huffcutt, 2003; Fabrigar et al., 1999; Ford et al., 1986), none of the oblique rotation methods has a dominant position in empirical research similar to that of Varimax among their orthogonal counterparts. Software packages offer a number of oblique rotation methods with minor differences. Nevertheless, popularly used methods (e.g., direct oblimin and promax) tend to give similar results with reliable data (Gorsuch, 1997; Robins, Fraley, and Krueger, 2007; Tabachnick and Fidell, 2013). In this study, factors were rotated with the direct oblimin method due to its strength of minimizing the cross products of factor loadings, thus providing clearer and hence more readily interpretable structures (Lee and Ashton, 2007).

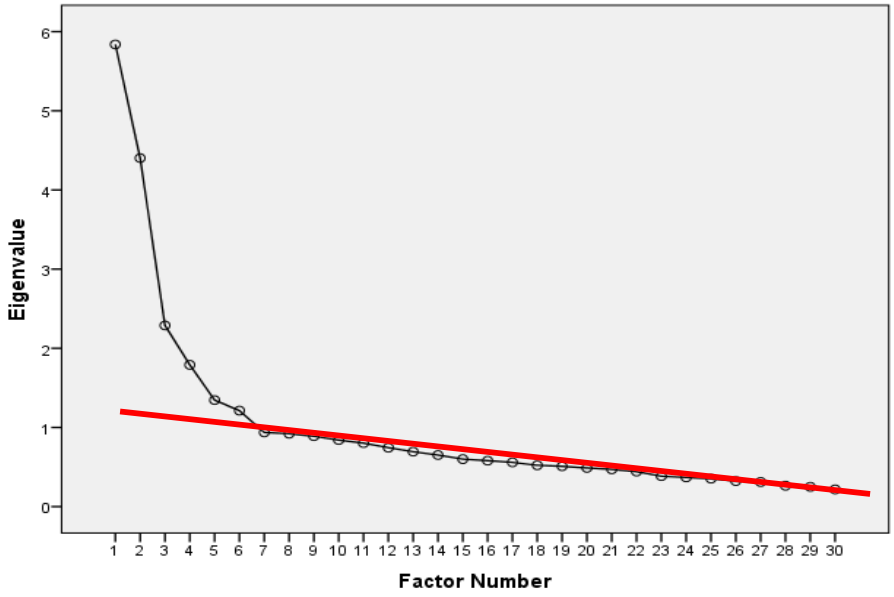
Results

The 54 items that were retained from the initial item screening process were subjected to EFA. The Kaiser-Meyer-Olkin (KMO) procedure and Bartlett's test indicated that the dataset was adequate for factor analysis (KMO>0.6; Bartlett test $p<0.001$). Items that loaded greater than 0.40 on only one factor were used to define factors in order to ascertain that items in the same factor have a sufficient portion of overlapping variance (Hinkin, 1998; Kim and Mueller, 1978; McCrae and Costa, 2004; Way et al., 2015), which led to the elimination of a further 22 items.

Cattell's scree test (Cattell, 1966) was used to determine the number of factors to be retained. Scree test assesses the eigenvalues of the correlation matrix in order to identify and retain factors with "non-trivial common variance" (Cattell, 1966, p. 246). Accordingly, factors and their corresponding eigenvalues were plotted in a descending order. The break point in the plot was identified by drawing a straight line from the smaller eigenvalues. Six factors, which were above the breakpoint, were retained.

The main limitation of the scree test is that the decision regarding the break point is based on a subjective judgment which can be problematic when a scree plot has multiple breaks or does not have any clear break (Hayton, Allen, and Scarpello, 2004). However, identification of the break point did not pose a threat to the validity of the results in this research. As seen in Figure 4.2, the scree plot had only one break point, which yielded a six-factor solution.

Figure 4.2: Scree plot



In order to balance the number of items pertaining to each factor—i.e. the items that would ultimately be retained in the construction of the final instrument— items that had the lowest loadings on Factor 2 and Factor 6 were eliminated. As result, the EFA yielded a 30-item instrument, accounting for 56.3% of the variance.

Table 4.1 presents the pattern matrix resulting from the EFA (see Appendix 2 for the item wordings). Items loading on a given factor are associated with a particular type of organizational slack (i.e. HR, financial, or physical). Factors contained either positively or negatively worded items, which is potentially a sign of artifactual (i.e. method) factors (Spector et al., 1997). Factors 1, 3, and 5 respectively consist of positively worded financial, physical, and HR slack items. Factors 2, 4, and 6, on the other hand, respectively consist of negatively worded financial, physical, and HR slack items. It is clear that items containing the same type of slack resources are broken down into two factors due simply to the respective direction of the item wordings. Taking the results as a whole, it is reasonable to conclude that the six-factor solution obtained in the present study supports the development of three 10-item subscales, which measure respectively attitudes towards HR slack (Factors 1 and 2), financial slack (Factors 3 and 4), and physical slack (Factors 5 and 6).

Table 4.1: EFA results

Factors	F1	F2	F3	F4	F5	F6
Factor 1: Positive attitudes towards financial slack						
Fin1	**0.61**	0.11	-0.13	-0.06	0.00	0.08
Fin2	**0.60**	0.08	-0.06	-0.02	0.04	0.13
Fin3	**0.60**	0.00	0.01	-0.02	0.08	-0.12
Fin4	**0.59**	-0.10	-0.13	0.07	0.11	-0.04
Fin5	**0.42**	0.11	-0.07	0.05	0.12	-0.13
Factor 2: Negative attitudes towards financial slack						
Fin6	0.02	**0.67**	0.17	0.04	0.05	0.02
Fin7	0.04	**0.66**	-0.06	0.07	-0.09	0.04
Fin8	0.20	**0.53**	0.03	0.04	-0.17	-0.12
Fin9	-0.11	**0.46**	-0.08	0.14	-0.07	-0.13
Fin10	0.21	**0.45**	0.09	0.02	0.02	-0.15
Factor 3: Positive attitudes towards physical slack						
Phy1	-0.05	-0.11	**-0.70**	0.10	-0.10	0.03
Phy2	0.09	-0.08	**-0.60**	-0.04	0.08	-0.08
Phy3	0.30	0.06	**-0.54**	0.03	0.06	0.11
Phy4	0.17	0.14	**-0.52**	0.05	0.19	0.07
Phy5	0.06	0.00	**-0.50**	-0.06	0.12	-0.14
Factor 4: Negative attitudes towards physical slack						
Phy6	-0.10	-0.03	-0.03	**0.65**	0.08	0.11
Phy7	0.12	0.02	0.09	**0.59**	-0.01	-0.06
Phy8	0.06	0.12	-0.07	**0.54**	-0.04	-0.13
Phy9	-0.12	0.34	-0.03	**0.44**	-0.02	-0.01
Phy10	0.00	0.07	-0.10	**0.43**	0.01	-0.15
Factor 5: Positive attitudes towards HR slack						
HR1	0.14	-0.06	0.15	0.04	**0.81**	0.00
HR2	0.08	0.02	-0.04	-0.04	**0.73**	0.02
HR3	0.02	0.04	-0.09	0.00	**0.71**	0.07
HR4	0.03	-0.13	-0.10	-0.06	**0.68**	-0.12
HR5	-0.05	-0.04	-0.04	0.09	**0.57**	-0.01
Factor 6: Negative attitudes towards HR slack						
HR6	0.08	0.04	0.03	0.02	-0.10	**-0.72**
HR7	-0.03	0.06	-0.15	-0.02	0.10	**-0.65**
HR8	0.14	-0.11	0.06	0.27	-0.06	**-0.57**
HR9	-0.14	0.18	0.00	-0.02	0.13	**-0.49**
HR10	-0.24	0.28	-0.08	-0.05	0.25	**-0.48**
Eigenvalues	5.84	4.40	2.29	1.79	1.35	1.21
Total variance explained by each factor	19.46	14.67	7.63	5.97	4.48	4.04
Cumulative variance explained by the factors	19.46	34.14	41.76	47.73	52.22	56.26

Notes: N = 193 (Sample 1). Bold is used to highlight the loading between an item and its respective scale/factor.

Table 4.2 reports the reliability estimates (internal consistencies) and intercorrelations of the resulting scales, together with their relevant means and standard deviations. Cronbach's alpha coefficients for the scales are all above the threshold of 0.70, indicating that they are internally consistent (Nunnally, 1978). Correlations among the three new scales are moderate and statistically significant, thus supporting my decision to opt for oblique rotation to simple structure (Tabachnick and Fidell, 2013). As mentioned in the previous chapter, scores of explicit measures may be influenced from participants' social desirability concerns. One way to test the impact of social desirability bias on new measures is to check their correlations with one of the social desirability scales in the literature (see, e.g., Hodgkinson, 1992; Wales, Patel, and Lumpkin, 2013). Fortunately, none of the three scales was significantly correlated with the Crowne-Marlowe Social Desirability Scale (Crowne and Marlowe, 1960), thus suggesting that they were free of social desirability bias.

Table 4.2: Correlations and reliability estimates

	1	2	3	4	5	Mean	SD
1. HR slack	**0.85**					2.87	0.63
2. Financial slack	0.36**	**0.78**				3.28	0.52
3. Physical slack	0.30**	0.31**	**0.74**			2.79	0.46
4. Overall (higher-order) scale	0.79**	0.74**	0.68**	**0.86**		2.98	0.4
5. Social desirability	0.02	0.06	-0.08	0.01	**0.72**	15.73	4.64

Notes: N=193 (Sample 1). Cronbach's alphas are reported in the diagonal. Negatively worded items are reversed scored. Scores of organizational slack scales were divided by the number of items.

** Correlation is significant at the 0.01 level (2-tailed).

In order to examine whether the scales identified from the factor analysis lead to a higher-order construct, sum-scores of the scales were submitted to EFA. The results of EFA yielded a one-factor solution (eigenvalue=1.78), accounting 59% of the variance which indicates a higher-order factor measuring overall attitudes towards slack resources. As reported in Table 4.2, Coefficient alpha for the higher-order, 30-item scale was 0.86 and it was also free of social desirability bias.

Discussion

The results of this study have provided the basis for forming a three-scale instrument for assessing respectively individuals' attitudes toward HR, physical, and financial slack resources. The resulting instrument is relatively straightforward to administer and each of the three constituent scales exhibit acceptable reliability (internal consistency).

STUDY 2: CONFIRMATORY FACTOR ANALYSIS OF THE ATSRQ

In the development and validation of psychometric instruments, confirmatory factor analysis (CFA) is used to examine the quality of the measurement model(s) hypothesized to underpin the instruments in question. It is now standard practice that following the development of new instruments on the basis of EFA, researchers undertake a follow up analysis using confirmatory techniques on a fresh sample or samples (see, e.g., Dobrow and Tosti-Kharas, 2011; Gill and Hodgkinson, 2007). Accordingly, the purpose of this second study was to subject my new three-scale instrument to the rigors of a CFA. The

measurement model derived in Study 1 was tested competitively against a series of alternative, potentially plausible formulations, using data obtained from a fresh sample of working adults.

Method

Sample

The sample for Study 2 consisted of managers working in the UK. In the final sample meeting the eligibility criteria (N=304), the average age was 43.7 years (SD=11.7), the average work experience was 24 years (SD=12.2), 38% of participants were female, and 34% of the participants described themselves as 'senior manager' and the rest as 'managers'. The composition of the sample in terms of the participants' primary functional areas of responsibility was as follows: General Management=49%, Finance=15%, Sales/Marketing=12%, Research and Development=6%, Human Resource=9%, and Production=9%. The vast majority of the participants were British (93%).

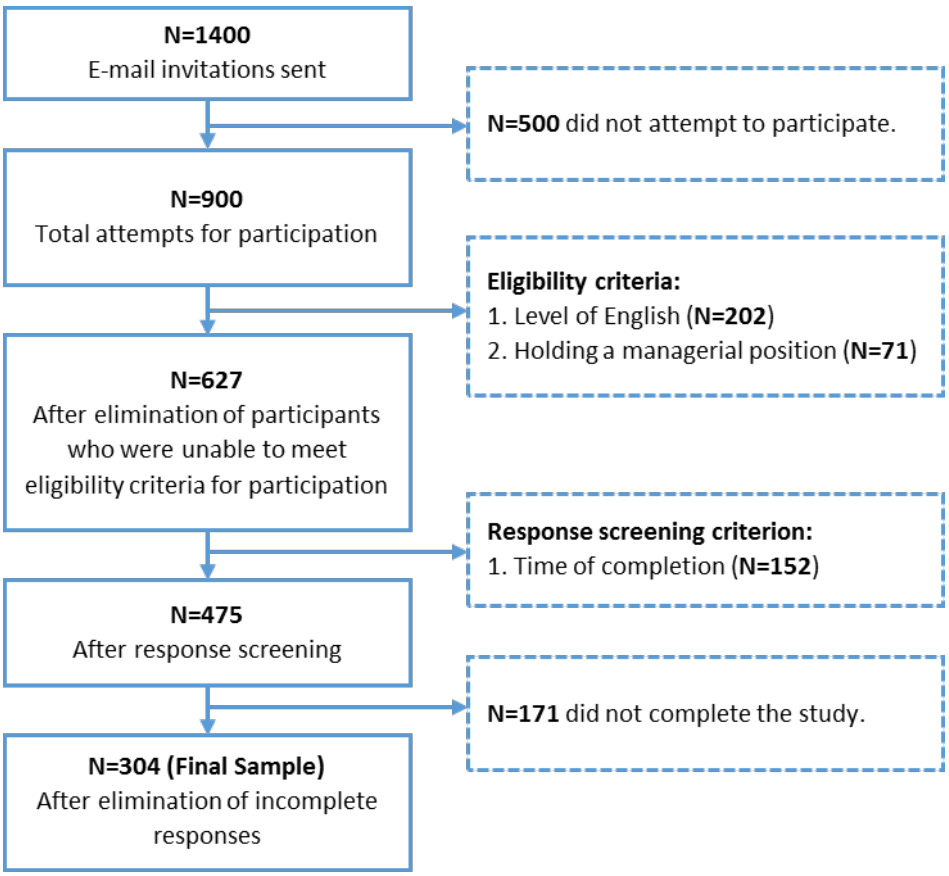
Recommendations regarding the sample size for conducting CFA vary considerably among scholars. Nevertheless, the sample size of 304 and the response-to-observed variable ratio (*N:p*) of 10 clearly satisfy the main sample size recommendations reported in the literature (e.g., Gorsuch, 1983; Kline, 2015; Spector, 1992).

In their Monte Carlo studies, MacCallum et al. (1999) found that the adequate sample size for CFA depends on the communalities among variables and over determination of factors (i.e. variable-to-factor ratio). They reported

that a sample size of 200 is adequate for conducting CFA when communalities are around 0.6 and variable-to-factor ratio is above 3.3. With a mean communality of 0.63 and a variable-to-factor ratio of 5, the dataset for this study sufficiently meets the criteria for conducting CFA.

Participants were recruited via Qualtrics, a third-party survey panel provider (https://www.qualtrics.com). The final sample size N=304 had been yielded after responses screening in a number of stages, displayed in Figure 4.3.

Figure 4.3: Flow chart of participation



Qualtrics sent e-mails to its 1400 panel members to invite them to participate in the study. A total of 900 participants attempted to participate into the study before data collection was terminated after 3 days. Of these 900

participants, 273 did not meet the basic eligibility criteria for participation, which, as in Study 1, were having a good command of English and suitable work experience (in this case, holding a managerial position). A further requirement, again mirroring the requirements of Study 1, was that participants must have completed the data collection tasks with due care and attention. Accordingly, a further 152 participants were eliminated because they completed the study in less than 6 minutes (meaning that they spent on average four seconds on each item).

Materials and procedure

As in Study 1, the data collection instrument consisted of four main sections: (1) the consent form, (2) the organizational slack scale items (i.e. the 30 items retained from Study 1), (3) the 33-item Crowne-Marlowe social desirability scale, and (4) the biographical questions. All participants agreed with the consent form before proceeding to the other sections. As a result of the screening criteria, there are no missing values in the dataset.

As can be seen in Appendix 5, organizational slack items were presented in a randomized format. The order of items is likely to affect the results of confirmatory factor analysis. While some scholars support grouping items with respect to factor structure obtained from EFA (e.g., Frantom, Green, and Lam, 2001; Groen, Wilderom, and Wouters, 2017; Melnick, 1993; Morgeson and Humphrey, 2006), others argue that items should be presented in a randomized format (e.g., Mumford and Stokes, 2007; Saris and Gallhofer, 2014; Tourangeau

and Rasinski, 1988). Scholars favouring a grouped format argue that measures presented in grouped format are likely to have higher internal reliability estimates and discriminant validity. Early empirical studies examining the item order effect were mostly in favour of the grouped format. Even though some studies revealed that there was no significant difference between randomized and grouped version of scales (Baehr, 1953; Schriesheim, Kopelman, and Solomon, 1989), others demonstrated that grouped format enhances the reliability and validity of scales (Franke, 1997; Harrison and McLaughlin, 1996; Melnick, 1993). Consistent with these empirical findings, adoption of a grouped format continues to be a common practice in scale development studies (e.g., Conte et al., 2005; Lee et al., 2015; Shipp, Edwards, and Lambert, 2009).

While using a grouped format helps researchers to report desirable psychometric properties, the results obtained with a grouped format are likely to be influenced by various biases which may artificially enhance the psychometric indicators of measures. As mentioned in the previous chapter, one of the drawbacks of explicit measures is that they are potentially vulnerable to social desirability bias. Grouping items is likely to increase the impact of demand characteristics on results because the constructs under examination and the purpose of studies become more transparent to participants. By guessing research hypotheses, they may want to edit their response selection due to social desirability concerns.

Another problem of using a grouped format is that it may lead to a response bias in the information retrieval task of the item response process

(Tourangeau, Singer, and Presser, 2003; Weijters, Geuens, and Schillewaert, 2009). Some of the cognitive tasks in the item response process are affected by previous items in the measures (Tourangeau and Rasinski, 1988). The impact of previous items increases when items measuring a given construct are presented in a block (Knowles et al., 1992). After responding to a few items in the block, participants do not comprehensively search for information from memory when responding to subsequent items. Instead, they carry over the set of information that was retrieved for prior items in the block because it is readily accessible from memory with minimum cognitive effort (Jackson, 1971; Tett and Christiansen, 2007). Using the same set of information and remembering the response selection for previous items increase the similarity of the responses among items in the block, which artificially boosts scales' internal consistency. Moving to a new item block measuring another construct, on the other hand, acts as a signal to retrieve a new set of information for making judgments. Thus, a grouped format is likely to generate stronger within-group consistencies and between-group discriminant validities even when these psychometric properties are unwarranted. Weijters, De Beuckelaer, and Baumgartner (2014) tested this assumption in their research by separating the items of a well-established unidimensional scale into two separate blocks. Results showed that positioning items into two separate blocks revealed two artifactual factors that exhibited discriminant validity. Their findings call into question the robustness of discriminant and convergent validity studies when items pertaining to the constructs of focal concern are grouped together, because the reported results

may be primarily a methodological artefact. Taking into account the current state of play in the foregoing literature, for the purposes of the present study I opted to present my organizational slack items in a randomized format, rather than grouping them in thematically organized blocks.

Results

Confirmatory factor analysis of the Study 2 dataset with positively and negatively worded items

I used the AMOS software programme to competitively test the various measurement models that were derived in Study 1 on the basis of EFA (i.e. the initial six-factor solution comprising three substantive and three method factors, and the three-factor model corresponding to the scales I constructed on the basis of Study 1). Scholars examining method effects in structural equation modelling suggest using either latent method factors (Bagozzi, 1993; Marsh, Scalas, and Nagengast, 2010) or correlated error terms (Horan, DiStefano, and Motl, 2003) to take into account the method effects in the substantive measurement models. Accordingly, I created eight alternative models which take into account the putative method effects in different ways.

Models 1-4 are designed to address the hypothesized method effects with latent method factors. Accordingly, Model 1 has six oblique factors, three of which are method factors as in the six-factor solution revealed in Study 1. Models 2 and 3 are bifactor models which consist of four latent factors. Both have three factors representing HR, financial and physical slack constructs and a

factor accounting for method effects. The method factor in these models was respectively defined by negatively worded items in Model 2 and positively worded items in Model 3. Model 4 is also a bifactor model; this model specifies two method factors, comprising respectively a negatively worded and positively worded method factor, and three substantive factors representing HR, financial, and physical slack constructs.

Models 5-8 are designed to address method effects with correlated error terms. In Models 5 and 6, error terms of negatively worded items are allowed to correlate. Whereas error terms were forced to correlate only if they were in the same factor in Model 5, they were free to correlate across factors in Model 6. Models 7 and 8 share the same logic as Models 5 and 6 respectively. Their distinction from the former two is that they are designed to allow correlations of the error terms of positively worded items.

I also tested whether the method effects disappear in Sample 2. In order to test this hypothesis, I created a three-factor model (Model 9) with uncorrelated error terms. Finally, I created a one-factor model (Model 10) in which all items load to a single factor measuring overall attitudes towards slack resources.

I compared the proposed measurement models with maximum likelihood estimation. Model fit was evaluated with four fit indices: the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). CFI and TLI values above 0.90 indicate an acceptable fit with data (Hu

and Bentler, 1999; Marsh and Hau, 1996). RMSEA values between 0.08 and 0.06 indicate an acceptable fit and values between 0.08 and 0.10 indicate a mediocre fit (Browne and Cudeck, 1992; Kinicki et al., 2013). Finally, SRMR values less than 0.09 indicate a close fit of the model hypothesized with the data observed (Hu and Bentler, 1999; Kline, 2015).

Table 4.3 presents the goodness of fit indices of the proposed models. The results suggest that none of the models hypothesized had adequate fit with the data observed. For this reason, negatively worded items were removed from the model and EFA was conducted on the sample from Study 1.

Table 4.3: Model fit indices

Models	χ2/df	CFI	TLI	RMSEA	SRMR
Model 1	2.57	0.85	0.82	0.07	0.06
Model 2	3.15	0.78	0.76	0.09	0.08
Model 3	3.3	0.77	0.74	0.09	0.10
Model 4	3.18	0.79	0.75	0.09	0.16
Model 5	3.02	0.81	0.77	0.08	0.16
Model 6	3.15	0.78	0.76	0.09	0.09
Model 7	3.3	0.77	0.74	0.09	0.10
Model 8	2.23	0.87	0.86	0.06	0.09
Model 9	2.26	0.87	0.86	0.07	0.07
Model 10	3.09	0.78	0.77	0.09	0.09

Notes: N=304 (Sample 2).

The results of the new EFA with the Study 1 sample (Sample 1) revealed a three-factor solution, accounting for 58% of the total variance, comparing favourably with the variance accounted for in the initial EFA of the Study 1 data, reported earlier (recall that the initial EFA of the Study 1 dataset yielded a 30-

item instrument, accounting for 56% of the variance). In this new analysis, each factor represented a specific type of organizational slack. Thus, removal of negatively worded items did not change substantively the latent variables in the new model. (The full procedure and results of this second EFA of the Study 1 dataset—without negatively worded items—can be found in Appendix 3.)

Confirmatory factor analysis of the Study 2 data with positively worded items

The final scale which derived from the revisit of Study 1 had 15 items which were all positively worded. Since there were no method effects to be taken into account, there was only one first-order proposed measurement model (i.e. Model 1) which had three factors representing people's attitudes towards HR, financial, and physical slack resources. As suggested in the literature (e.g., Bentler, 1990; Kapoutsis et al., in press), the proposed measurement model was compared with alternative models. Accordingly, the three-factor proposed model was first contrasted to a single-factor model (i.e. Model 2) in order to examine overall discriminability of the scales in the instrument. It was then compared with three two-factor models (Models 3-5) in order examine the theoretical independence of the scales from one another (Kinicki et al., 2013).

Contrary to other alternative models, Model 6 is not a nested version of the proposed model. As explained in the previous chapter, each scale item reflects a hypothesized relationship between slack resources and organizational outcomes. EFA results revealed that items loading on a given factor reflected a particular type of organizational slack, suggesting that attitudes towards slack

resources might be type-specific. Alternatively, factors could be based on the organizational outcomes in the scale (i.e. innovation, growth, and conflict resolution), reflecting a belief that slack resources in general have differentiated effects on across varying types of organizational outcomes. In keeping with this argument, Model 6 hypothesizes a three-factor solution, in which attitude to slack is structured in accordance with its impact on each of the three organizational outcomes featured in the various items.

As reported earlier in Study 1, a second-order EFA revealed the possibility of a higher-order construct measuring overall attitudes towards slack resources. Accordingly, Model 7 comprises a higher-order model purporting to reflect overall attitudes towards slack resources; this model takes the form of three first-order factors, which load in turn onto a single, second-order factor.

The overall model fit was evaluated with the four goodness of fit indices introduced earlier. Additionally, the sequential Chi-square difference test (James, Mulaik, and Brett, 1982) and the comparative fit index (CFI) test (Cheung and Rensvold, 2002) were employed, in order to compare the various alternative models hypothesized with the proposed model of substantive concern (i.e. Model 1). Significant Chi square statistics and CFI differences greater than 0.01 suggest the acceptance of the less constrained proposed model (Widaman, 1985).

Since the overall model fit with data does not necessarily reveal much information about the psychometric properties at the scale level (Spector, 1992),

item loadings and average variance extracted (AVE) statistics were used to evaluate convergent validity of the scale in the instrument (Way et al., 2015). Moreover, a Cronbach alpha statistic was calculated for each scale to evaluate the relevant scale reliabilities.

Viability of the second-order construct was assessed with three criteria suggested by Johnson and his colleagues (Johnson et al., 2012; Johnson, Rosen, and Chang, 2011). First, the proposed second-order model should demonstrate a good fit with the data. Second, first-order factors should have significant and substantial loadings (i.e. over 0.70) on the hypothesized second-order factor. As a final criterion, the second-order construct should have high internal consistency, which is evaluated with the composite latent variable reliability (CLVR) statistic (Raykov, 1997). Constructs with CLVR values above 0.70 are considered to be internally consistent (Hair et al., 2010; Webster, Adams, and Beehr, 2014).

Table 4.4 presents the results pertaining to the fit indices of the proposed and alternative models. The proposed three-factor model demonstrated an excellent fit with the observed data (Chi-square/df=2.29; CFI=0.95; TLI=0.94; RMSEA=0.06; SRMR=0.06), whereas the alternative nested models reported in the table and the standalone outcome based alternative (i.e. Model 6: Chi-square/df=6.59; CFI=0.79; TLI=0.78; RMSEA=0.14; SRMR=0.10) did not fit with the data at all well. Moreover, Chi-square differences between the proposed model and alternative nested models were all significant and CFI differences

were well above 0.01, both of which suggest the acceptance of the less constrained proposed model.

Table 4.4: Model fit indices

Model name	χ2(df)	Δχ2(Δdf)**	χ2/df	CFI	TLI	RMSEA	SRMR
1: Proposed 3-factor model	198.96(87)*		2.29	0.95	0.94	0.06	0.04
2: 1-factor model	483.24(90)*	284.28(3)	5.36	0.83	0.8	0.12	0.07
3: 2-factor model (HR-Physical combined)	279.1(89)*	80.14(2)	3.14	0.91	0.9	0.08	0.05
4: 2-factor model (Financial-Physical combined)	336.29(89)*	137.33(2)	3.78	0.89	0.87	0.10	0.06
5: 2-factor model (HR-Financial combined)	412.47(89)*	213.51(2)	4.63	0.84	0.81	0.11	0.07
7: Proposed 3-factor, second-order model	198.96(87)*		2.29	0.94	0.92	0.06	0.04

Notes: N=304 (Sample 2). CFI (comparative fit index), TLI (Tucker-Lewis index), RMSEA (root mean square error of approximation), SRMR (standardized root mean square residual).

* Correlation is significant at the 0.01 level.

**Alternative models are compared with the proposed 3-factor model

Item loadings in the proposed three-factor model were all significant and above the 0.50 cut off (Steenkamp and Van Trijp, 1991), ranging from 0.53 to 0.80. Average variance extracted for each factor exceeded the threshold of 0.50 (Fornell and Larcker, 1981), ranging from 0.50 to 0.56 (Mean=0.54). Taken together, these results support the convergent validity of the instrument at the subscale level. In addition, Cronbach alpha statistics shown in Table 4.5 suggest that the hypothesized ATSRQ scales are all internally consistent.

Table 4.5: Correlations and reliability estimates

	1	2	3	4	5	Mean	SD
1. HR slack	**0.87**					2.92	0.71
2. Financial slack	0.55**	**0.86**				3.1	0.63
3. Physical slack	0.71**	0.62**	**0.83**			2.8	0.41
4. Overall (higher-order) scale	0.87**	0.83**	0.89**	**0.92**		2.94	0.44
5. Social desirability	0.06	0.12**	0.01	0.14*	**0.78**	14.23	5.23

Notes: N=304 (Sample 2). Cronbach's alphas are reported in the diagonal. Negatively worded items are reversed scored. Scores of organizational slack scales were divided by the number of items.

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The proposed second-order model demonstrated a good fit with the observed data (Chi-square/df=2.29; CFI=0.94; TLI=0.92; RMSEA=0.06; SRMR=0.04). Factor loadings for the second-order factor were significant and substantial in size (above 0.70). The AVE for the second-order construct was 0.73, well above the recommended threshold (Fornell and Larcker, 1981). Finally, the composite latent variable reliability of the second-order factor was 0.90.

Discussion

The results of Study 2 confirm the hypothesized three-factor structure that was derived from Study 1. Comparison of the proposed three-factor model against a series of alternative nested models (Models 1-5 and 7) and a standalone alternative (Model 6), supported the empirical distinctiveness of the

constructs represented in the three separate scales, reflecting the three distinctive types of slack, each of which was internally consistent. The results thus confirmed that responses to my new instrument should be modelled as a single-factor, higher-order construct, reflecting varying attitudes towards organizational slack in general.

STUDY 3: TEST-RETEST RELIABILITY ASSESSMENT OF THE ATSRQ

As noted earlier there are two commonly accepted facets of reliability that must be displayed for an instrument to be deemed psychometrically acceptable: internal consistency and test-retest reliability (Cronbach, 1951). Whereas the first two studies of this chapter ascertained on the basis of Cronbach's coefficient alpha that the ATSRQ scales exhibit acceptable internal consistency, my third study was designed to ascertain the extent to which the new instrument displays acceptable test-retest reliability.

Test-retest reliability is concerned with temporal consistency of a measure over time (Lam and Woo, 1997). In order to examine test-retest reliability of measures, they are administered to a sample of participants on two occasions. Substantial correlations between participants' scores, in excess of 0.70 on each scale of concern across the two separate occasions, interspersed with a suitable gap of several weeks, so as to minimize carry over effects due to memory recall, indicates that the instrument in question displays acceptable test-retest reliability (Nunnally, 1978).

Method

Sample

The sample for Study 3 was obtained from one of the largest women's fashion retailers in the UK. Participants were employees working in the company's head office in London. The initial sample comprised N=79 employees of whom 71 returned usable data. After merging the two datasets from the time-periods time 1 and time 2, there were 68 usable matching responses which constitute the final sample for Study 3, with a response rate of 86%. The average age in the final sample was 31.9 years (SD=7.1) and 51% of the participants were female. The average work experience was 14.7 years (SD=8.0). Participants were overwhelmingly British (72%) and 52% of them held managerial positions. The composition of the sample in terms of the participants' primary areas of functional responsibility was as follows: General Management=11%, Finance=9%, Sales/Marketing=19%, Research and Development=11%, Human Resources=6%, and Production=44%.

Materials and Procedure

Data collection was undertaken in two waves with paper-and-pencil instruments. At time 1 participants completed the consent form, the 15-item ATSRQ and the biographical questions, whereas at time 2 they merely repeated the 15-item ATSRQ (see Appendix 6 for the complete set of materials). Each questionnaire booklet had a unique identification number in order to match employees' scores obtained from the two waves of data collection.

After a brief explanation of the study, booklets were distributed to an initial total of 79 employees who were asked to complete the study by the afternoon of the next day. Five weeks after the first wave of data collection, participants were distributed the second part of the data collection instrument. In order to give participants extra time to complete the questionnaire, booklets were collected two days after distribution.

Results

Test-retest reliability of the ATSRQ scales was assessed with the Pearson product moment correlation coefficient. All three dimensions of the ATSRQ displayed high test-retest reliability with correlation coefficients 0.90, 0.88 and 0.91 for attitudes towards HR, financial, and physical slack respectively. The higher-order, overall attitudes towards slack resources scale, formed by summing participants scores pertaining to the three subscales, also exhibited significant temporal stability (r=0.92).

Discussion

The results of Study 3 confirm that the ATSRQ scales designed to assess people's attitudes towards slack resources are indeed sufficiently reliable in terms of temporal consistency to warrant their use for such assessment. Over a test-retest interval of five weeks all three subscales and the combined higher-order scale exhibited acceptable test-retest reliability coefficients, well above the 0.70 threshold commonly accepted as the cutoff (cf. Nunnally, 1978).

General Discussion

This chapter has reported the initial construct validation of the ATSRQ, which was undertaken in three studies with independent samples. The results of Study 1 and Study 2 revealed three distinct and internally reliable latent constructs that lie behind manifest variables reflecting attitudes towards HR slack, financial slack and physical slack. These three factors in turn define a higher-order, internally consistent construct, indicative of an overall attitude toward organizational slack.

The factor structure of the ATSRQ, ascertained by means of EFA and CFA, stands in marked contrast with previous empirical studies which report that the impact of slack resources on organizational outcomes varies significantly with the type of slack resources in question (e.g., George, 2005; Tan and Peng, 2003). Rather, it appears attitudes towards slack financial, human, and physical resources are organized in a largely undifferentiated hierarchy; in other words, although the three studies have identified three reliable subscales they are correlated to such an extent that perhaps they are best modelled as a unidimensional continuum.

A fourth potentially distinctive type of organizational slack that was incorporated in the initial study, intangible slack, was ultimately abandoned. The results of Study 1 suggested that participants found the intangible slack items were too abstract to comprehend meaningfully, evidenced by the poor psychometric properties these items displayed. Difficulties in comprehending

the intangible slack items is the most likely explanation as to why only three of these items survived the initial item analysis phase of Study 1. It seems that due to its abstract nature, participants had difficulty in understanding intangible slack, resulting in weak covariances among the intangible slack items.

One of the main features of attitudes, which distinguish them from other psychological concepts, is the existence of the attitude object (Eagly and Chaiken, 2007). Accordingly, attitude measures aim to capture evaluative responses of individuals toward more abstract notions are likely to prove problematic, not least due their attendant complexity. In an attempt to help participants to comprehend what was meant by intangible slack resources, each item listed concrete examples. Unfortunately, however, the results of Study 1 suggest that despite aiding participants in this way, they were unable to make use of the intangible slack resource items in a way that led to the emergence of a meaningful psychometric structure. Instead, it seems that they answered in an arbitrary fashion. Compared with other items, the use of a middle response option is higher for the intangible slack items, supporting the argument that participants likely skipped crucial cognitive steps in the item response process. Krosnick (1999) argues that the frequent use of neutral response option is an indicator that participants adopt satisficing behaviour which is "to arrive at a satisfactory answer without expending substantial effort" (p. 548). Task difficulty is proposed by Krosnick as one of the main reasons for adopting such satisficing behaviour in answering questions that are too difficult.

While slack resources were found to be related to many different outcomes in the literature, there were only three outcomes in the scale model in order to maintain brevity. Factors in the measurement model revealed that individuals do not significantly shift their attitudes about the impact of slack resources in different organizational processes and outcomes. In the confirmed measurement model, there is no factor consisting of items reflecting the impact of the different types of organizational slack on a single outcome (i.e. innovation, growth, or conflict resolution). Since the formation of subscales was based on the type of organizational slack, adding more outcomes to the model would neither change the factor structure nor reveal extra insights.

The five-item subscales, reflecting respectively attitudes towards slack financial, HR, and physical resources, resulting from the three studies reported in this chapter each displayed appropriate levels of internal consistency and test-retest reliability, as did the more general, higher-order attitude to slack scale. Furthermore, the results obtained from Studies 1 and 2 showed that scores of the three scales and the higher-order scale were free of social desirability bias.

Another important result of Study 1 and Study 2 is the abandonment of negatively worded items due to their poor psychometric properties, which led to a number of anomalies in respect of the initial CFA results. As in the case of intangible slack items, one of the reasons behind the poor performance of the negatively worded items is the increased cognitive burdens such items place on participants, again posing difficulties in basic comprehension. Everyday English is overwhelmingly dominated by affirmative clauses (Tottie, 1991). When

confronted with negatively worded items, participants need to perform a more complex series of processes to comprehend them. Under these circumstances, participants having difficulty in the comprehension of such items tend to skip intermediary cognitive tasks (e.g. information retrieval and judgment), and move instead to formulate their answers on the basis of response sets (Galesic et al., 2008; Holbrook, Green, and Krosnick, 2003; Krosnick, 1999).

Another reason for the poor performance of negatively worded items is the miscomprehension of participants due to their expectation about the item wording direction. Due to the rare usage of negatively worded phrases in everyday language, participants more typically expect to encounter positively worded items in measurement instruments. Hence, especially when they are inattentive to detail, participants may answer negatively worded items by relying on their expectations about the item wording direction, thus recording inaccurate responses (Swain, Weathers, and Niedrich, 2008).

The last major problem pertaining to negatively worded items is the high risk of inappropriate response selection. Despite understanding clearly the attitude item, delicately retrieving the information required from memory, and making a careful judgment about the item statement, participants are, nevertheless, still at risk of selecting response options that are completely opposite to their judgements due to basic misunderstandings during the response selection task. The likelihood of such misresponse is considerably higher in the case of negatively worded items because participants need to select choices located at points along the response scale in mirror image to the

corresponding points pertaining to positively worded items, a task that requires considerably greater cognitive capacity (Merritt, 2012; Podsakoff et al., 2003).

As seen from this discussion, low performance of negatively worded items arises as a function of several interrelated factors. The main reason researchers incorporate such items in scales is in an effort to minimize acquiescence bias (e.g., Scheier, Carver, and Bridges, 1994), a generalized tendency to (dis)agree with attitude items irrespective of their content. However, negatively worded items, *per se*, cannot change the response style of participants. It may only reduce the impact of acquiescence bias on sum scores of scales by reversing the score of negatively worded items. Nevertheless, acquiescence bias will remain at the item level.

Acquiescence bias may emerge in two different cognitive tasks integral to item responding, namely, information retrieval and response selection. After the comprehension of the scale item, participants high in acquiescence purposefully search for and retrieve information that is in agreement with the item stated (Davies, 2003; Gilbert, Krull, and Malone, 1990; Krosnick, 1999). Then they agree with positively and negatively worded items alike that are measuring the same construct. Acquiescence bias may also occur in response selection where participants agree with the item even if their judgements suggest they should disagree (Weijters, Baumgartner, and Schillewaert, 2013).

In summary, negatively worded items pose serious threats to revealing genuine views towards attitude objects (Wong et al., 2003). Results of Study 1

and Study 2 suggest that the problems of having negatively worded items due to cognitive complexity should not be overlooked for the sake of limited improvement over acquiescence bias. Accordingly, the final scales emerging from these studies are composed entirely of positively worded items.

Conclusion

The studies reported in this chapter have ascertained some of the key psychometric properties pertaining to the ATSRQ. Specifically, the instrument comprises three intercorrelated five-item subscales for the assessment of attitudes pertaining respectively towards slack HR, financial, and physical resources. EFA and CFA demonstrate that the factor structure of the resulting instrument is readily interpretable in a meaningful way and that each of the subscales and the overarching, higher-order scale display appropriate levels of reliability, both in terms of internal consistency and test-retest reliability. However, none of the studies reported thus far are able to ascertain whether the resulting scales measure what they are purporting to measure. To that end, the next chapter reports the findings of two further studies, which explored the convergent and discriminant validity of the various ATSRQ scales in respect of a series of external criteria, with a view to demonstrating that the new instrument actually measures the constructs that it was designed to measure, in the manner intended at the outset of this programme of work.

CHAPTER 5: NOMOLOGICAL NETWORK OF THE ATSRQ

Introduction

The purpose of this chapter is to establish a nomological network for the ATSRQ, its overriding goal being to assess the extent to which the new instrument measures what it intends to measure. To this end, two empirical studies are reported. The first study (i.e. Study 4) investigates the convergent and discriminant validity of the new instrument, through an examination of its empirical relationships with theoretically similar and dissimilar constructs. The second and final study (i.e. Study 5) examines the criterion-related validity of the new instrument. More specifically, a series of regression analyses is reported, which I preformed to ascertain the extent to which the ATSRQ exhibits concurrent validity in relation to five dependent variables, namely, access to resources, work autonomy, decision latitude, leadership-member exchange, and perceived organizational support.

STUDY 4: CONVERGENT AND DISCRIMINANT VALIDITY OF THE ATSRQ

Convergent and discriminant validity are often examined together to establish a nomological network for new measures (Clark and Watson, 1995). The present study aims to provide empirical evidence for convergent and discriminant validity of the ATSRQ by examining its relations with trust in subordinates, negative affectivity, and the big five personality traits.

Convergent Validity

Convergent validity is concerned with the extent to which there are significant and substantial correlations between responses to the new instrument and established instruments that measure the constructs purportedly assessed by the new instrument and/or constructs sufficiently close in meaning to the focal constructs purportedly assessed by the new instrument that it would be reasonable to expect them to correlate significantly and substantially with the new instrument (Peter, 1981; Spector, 1992; Venkatraman and Grant, 1986). In the former case, to the extent that the correlations among the various constructs purportedly measured by the new instrument and established measures of those constructs are significant, substantial, and in the directions predicted, convergent validity is ascertained. When there are no established alternative instruments available against which to ascertain directly the construct validity of the new instrument, researchers commonly opt for the strategy of employing established measure of constructs that should correlate substantially and significantly with the various dimensions of the new instrument in ways that are meaningful on the basis of expectations borne of sound theory (see, e.g., Amabile et al., 1996; Kapoutsis et al., in press; Lee et al., 2015). Given that, prior to the present programme of work, there were no established instruments for assessing attitudes towards slack resources, I adopted the strategy of ascertaining the convergent validity of my new instrument by exploring its relationships with established instruments designed to assess constructs that

should correlate meaningfully with it on the basis of theory. For this purpose, I employed an established measure of trust.

Trust is a psychological state comprising the willingness to accept vulnerability based on positive expectations of the intentions or behavior of a trustee (Mayer, Davis, and Schoorman, 1995; Rousseau et al., 1998). Scholars have proposed different models to break down the concept into components based on the expectations from trustees (Fulmer and Gelfand, 2012). Benevolence and competence are two of the most accepted components of trust both of which are critical in the relationship between managers and subordinates.

Benevolence reflects "the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive" (Mayer and Davis, 1999, p. 124). Scholars often treat benevolence and opportunism as opposite ends of a continuum in the social relationship between individuals (e.g. Barney and Hansen, 1994; Cruz, Gómez-Mejia, and Becerra, 2010; Schoorman, Mayer, and Davis, 2007). Due to their fundamentally different expectations from employees, RBV and agency theory oriented researchers have opposing views about trust in the workplace and its impact on organizations. While RBV scholars see trust as an important ingredient for achieving competitive advantage (Barney and Hansen, 1994), agency theorists argue that trust can only exist in the relations between family members and friends (Williamson, 1993).

Since subordinates are characterized as inherently opportunistic in agency theory, it is not surprising that agency theory researchers believe that there cannot be a trusting relationship between managers and subordinates. RBV scholars, on the other hand, do not think managers and subordinates have fundamentally different goals. Since trusted subordinates are expected to behave in a benevolent manner, agency theory concerns regarding subordinate behaviors are not shared by RBV oriented scholars who promote the build-up of trusting relationships in the workplace for success.

The approach of scholars to trust in organizations has a significant impact on their recommendations regarding slack resources. The main reason agency theory scholars perceive organizational slack as unfavorable in organizations is that they see it as a means of pursuing opportunistic behavior by agents (i.e. subordinates). Thus, principals (i.e. managers) are advised to remove slack resources from the use of subordinates. RBV scholars, on the other hand, do not expect subordinates to behave in an opportunistic manner. Since their perception of the risk that slack resources will be exploited by managers is low, they are likely to hold more positive attitudes towards slack resources.

In addition to benevolence, trusted employees are also expected to be competent in their jobs (Cook and Wall, 1980; Lee, 2004). It seems reasonable to expect that managers who trust their subordinates believe that they are capable of transforming excess resources into desirable outcomes for the organization. Hence, to the extent that my new attitudes towards slack resources scale exhibits convergent validity it should correlate positively and significantly with

Ladegard and Gjerde's (2014) construct valid measure of trust in subordinates scale.

Empirical research on trust in organizations

The notion of trust has received a great deal of empirical attention. There are a considerable number of studies regarding the consequences of employees' trust in their teams, leaders, and organizations. Trust is a significant predictor of various processes and outcomes in organizations including job satisfaction (Dirks and Ferrin, 2002), organizational citizenship behaviour (Colquitt, Scott, and LePine, 2007), organizational change (Ruppel and Harrington, 2000), innovation (Molina-Morales and Martínez-Fernández, 2009), and financial performance (Luo, 2008). Despite repeated calls in the literature to examine trust from different perspectives (Brower et al., 2009; Brower, Schoorman, and Tan, 2000; Fulmer and Gelfand, 2012; Ladegard and Gjerde, 2014), managers' trust in subordinates has received little empirical attention. Nevertheless, studies investigating managerial trust have highlighted the promising potential of managerial trust for explaining key organizational phenomena. Some of the key empirical studies which support the theoretical connection between managers' attitudes towards slack resources and their trust in subordinates are reviewed in the following sub-sections.

Findings from prior studies indicate that managers who trust their subordinates do not follow agency theory recommendations in their relationships with subordinates, but instead grant greater autonomy to support

them. For example, Ruppel and Harrington (2000) found that managerial trust in subordinates diminishes the adoption of control mechanisms and reduces employee monitoring activities in the workplace. In another empirical study, Brower et al. (2009) found that organizational citizenship behavior of subordinates is significantly low when managers do not trust subordinates. Although it is not empirically tested in the study, the trustworthiness of subordinates is proposed as an important parameter in decisions regarding resource accumulation. Accordingly, Brower et al. (2009, p. 338) argued if managers did not trust their subordinates, they "did not provide sufficient discretion and resources". In line with other studies, research by Spreitzer and Mishra (1999) demonstrated that trusted subordinates enjoy greater autonomy in decision making.

The empirical studies regarding trust mentioned above suggest that information asymmetry is not seen as a threat for managers when subordinates are recognized as trustworthy. Instead, managers want to capitalize on their subordinates' knowledge and competence by granting them autonomy in various areas, including decision making. Since deployment of slack resources is an effective way to increase the autonomy of employees, there should be a positive correlation between managers' attitudes towards slack resources and their trust in employees. Hence:

Hypothesis 1: There will be a positive correlation between managers' attitudes towards slack resources and their trust in employees.

To sum up, one of the important differences between RBV and agency theory is their approaches to trustworthiness of subordinates which leads to opposite views regarding slack resources. Trust in subordinates is fiercely promoted in RBV arguments based on the assumption that subordinates "behave as stewards over the resources under their control" (Barney and Hansen, 1994, p. 175). Agency theory oriented scholars, on the other hand, warn that trust in subordinates may only give rise to the emergence of opportunistic behavior in the workplace. Therefore, managers' trust in subordinates is an important indicator of their proximity to arguments proposed by agency theory and RBV scholars.

Discriminant (divergent) validity

Discriminant validity reflects the extent to which a new instrument's dimensions assess constructs that are distinctive in nature. More specifically, an instrument exhibits discriminant validity to the extent that it does not correlate significantly with established instruments designed to assess constructs that should have no bearing on the focal constructs purportedly assessed by the new instrument (Lucas, Diener, and Suh, 1996). Accordingly, a measure of negative affect (NA) and big five personality traits were employed to examine the discriminant validity of the ATSRQ.

Negative affect is a personality variable which "reflects pervasive individual differences in negative emotionality and self-concept" (Watson and Clark, 1984, p.465). Scholars overwhelmingly consider negative affect as a potential source of

bias in self-reports (Burke, Brief, and George, 1993; Podsakoff et al., 2003, 2012; Watson, Pennebaker, and Folger, 1987). Individuals with high NA have negative views about themselves and the world around them. They tend to see the negative side of situations, which may systematically bias their response selections into the negative direction. For this reason, NA is often treated as a control variable (e.g., Colquitt et al., 2015; Folger and Konovsky, 1989). However, there is not enough evidence to assume that the impact of NA is substantial on correlations among organizational variables (Williams and Anderson, 1994). In their empirical research, Spector et al. (2000) found little impact of NA in structural equation modeling and argued that NA does not have a universal effect on all variables.

Instead of seeing NA as a method factor, some scholars argue that NA may have a theoretical connection with particular variables, including, job complexity (Spector, Jex, and Chen, 1995), organizational citizenship behavior (OCB) (Lam et al., 2009). Nevertheless, there is no any apparent theoretical connection between attitudes towards slack resources and negative affect. Thus, a weak or non-significant relationship between the ATSRQ and NA would provide evidence for the discriminant validity of the ATSRQ.

Hypothesis 2: There will not be significant correlation between attitudes towards slack and negative affect.

Personality traits play an important role in all major areas of organizational behaviour research. For instance, empirical studies revealed that human

personality is significantly related to job performance (e.g., Hogan and Holland, 2003) and job attitudes (e.g., Judge, Heller, and Mount, 2002). The five-factor model is by far the most popular approach among scholars to examine fundamental features of human personality (Hodgkinson and Gill, 2015; Judge, and Ilies, 2002). This consists of five orthogonal factors, which are openness, extraversion, agreeableness, conscientiousness, and neuroticism. There is no theoretical basis for expecting significant correlations between the big five traits and the ATSRQ scales. Hence, to the extent that such non-significant correlations are observed, the findings will offer support for the discriminant validity of the ATSRQ.

Hypothesis 3: Attitudes towards slack resources will be weakly correlated with the big five personality traits.

Method

Sample

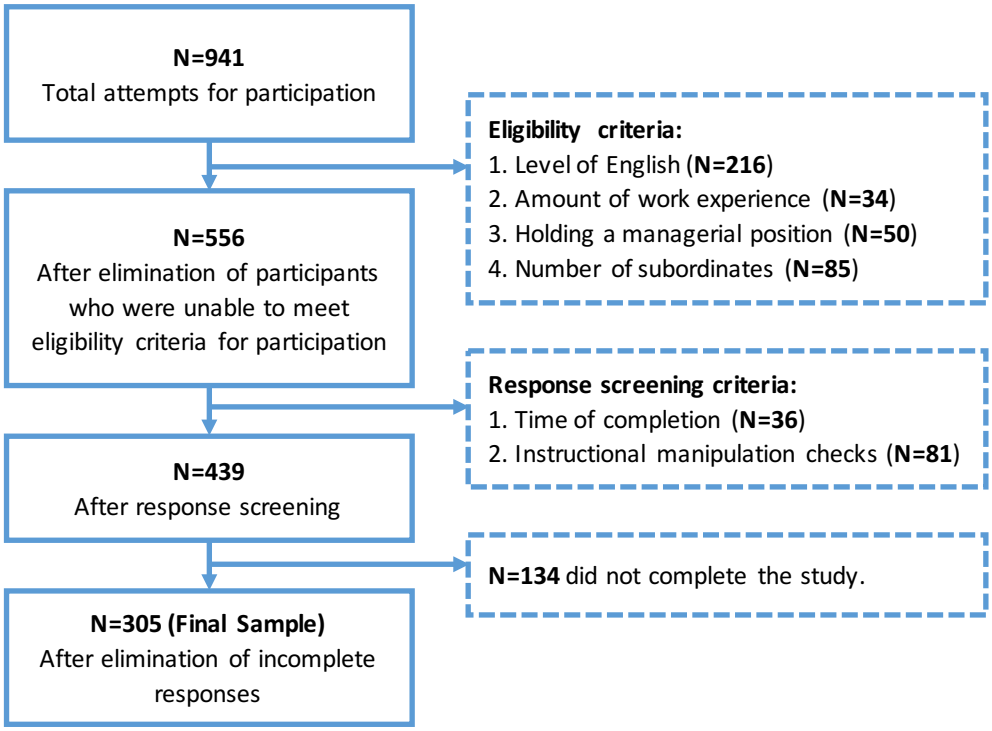
Data for Study 4 was collected from managers working in the UK. In the final sample meeting the eligibility criteria (N=305), the mean age was 42.6 years (SD=10.3) and 49% of the participants were female. All of the participants in the final sample held managerial positions, with 26% of the participants describing themselves as 'senior manager' and the remaining as 'managers'. The average work experience in the sample was 22.4 years (SD=10.4) and the vast majority of the participants were British (93%). Participants had an average of 9.1 subordinates (SD=4.1). The composition of the sample in terms of the

department in the organization where participants work was as follows: General Management=51%, Finance=10%, Sales/Marketing=12%, R&D=10%, Human Resource=8%, and Production=9%. The composition of the sample in terms of education was as follows; GCSEs or equivalent=7%, A-levels or equivalent=18%, Professional qualification=14%, Bachelor's degree=40%, Master's degree=18%, and Doctorate=3%.

Procedure

Participants were recruited via a panel provider, Qualtrics. The final sample size N=305 had been yielded after a number of response screening stages as shown in Figure 5.1

Figure 5.1: Flow chart of participation



The study was advertised on the online platform of the panel provider where registered participants access studies for participation. The final sample size of 305 was reached in two days. 941 individuals attempted to take part in the study before it became offline on the platform. Of these 941 potential participants, 385 were screened out because they did not meet the specified eligibility criteria for participation which were having a good command of English, minimum four years of work experience, holding a managerial position, and supervising at least three subordinates. A further requirement was that participants must have completed the data collection tasks with due care and attention. Accordingly, a further 117 participants were eliminated because they completed the study unrealistically quickly or gave a wrong answer to the instructional manipulation checks item (Oppenheimer, Meyvis, and Davidenko, 2009).

Materials

Data collection instrument for Study 4 is reported in Appendix 7.

Attitudes towards slack resources: This was measured using the three-factor, 15-item ATSRQ, which was derived from the studies reported in the previous chapter.

Managers' trust in subordinates: Managers' trust in subordinates was measured with Ladegard and Gjerde's (2014) 4-item, 7-point scale. Responses ranged from *totally disagree* (1) to *totally agree* (7). A sample item is "My subordinates will always act responsibly to solve problems occurring in their job."

Negative affect: Watson, Clark, and Tellegen's (1988) 10-item Negative Affect Scale was used to measure negative affect. Respondents were asked to indicate how they have felt in the last few weeks by responding to adjective based items (e.g. distressed). Responses ranged from *very slightly or not at all* (1) to *extremely* (5).

Big five personality traits: Gill and Hodgkinson's (2007) Five Factor Model Questionnaire (FFMQ) was used with a 5-point response scale from *not like me at all at work* (1) to *quite like me at work* (5). Among other instruments adopting the five-factor model, the FFMQ is rigorously validated to be used in a wide variety of organizational settings. It consists of five factors which are Openness, Extraversion, Agreeableness, Conscientiousness, and Neuroticism. There are sixteen adjective-based items (e.g., warm) in each factor.

Results

Table 5.1 shows the descriptive statistics and scale reliabilities (Cronbach's Alpha) pertaining to the instruments employed in this study. As can be seen in the diagonal of Table 5.1, all measures had Cronbach alpha reliabilities above the required 0.70 threshold, thus indicating acceptable reliability (Nunnally, 1978).

Table 5.1: Correlations and reliability estimates

	1	2	3	4	5	6	7	8	9	10	11	Mean	SD
1. HR slack	0.89											3.06	0.87
2. Financial Slack	0.55**	0.83										3.50	0.70
3. Physical Slack	0.66**	.730**	0.86									3.23	0.76
4. Overall (higher-order) scale	0.86**	.85**	.91**	0.93								3.26	0.69
5. Managers' trust in subordinates	0.40**	0.46**	0.46**	0.50**	0.83							5.34	0.99
6. Negative Affect	0.07	-0.03	-0.02	0.01	-0.21**	0.92						1.61	0.70
7. Agreeableness	0.17**	.13*	0.16**	0.18**	0.20**	-0.17**	0.92					4.00	0.51
8. Conscientious	-0.03	0.13*	0.09	0.06	0.13*	-0.38**	0.35**	0.88				4.07	0.54
9. Openness	-0.09	-0.11	-0.01	-0.07	-0.09	0.02	-.272**	-0.13*	0.83			2.69	0.50
10. Neuroticism	0.01	-0.16**	-0.13*	-0.11	-.20**	0.55**	-0.41**	-0.47**	0.13*	0.83		2.63	0.54
11. Extraversion	0.11	0.17**	0.12*	0.15**	0.18**	-0.37**	0.26**	0.36**	-0.48**	-0.40**	0.84	2.76	0.24

Notes: N=305 (Sample 4). Cronbach's alphas are reported in the diagonal. Negatively worded items are reversed scored.

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

In order to test convergent and discriminant validity of the ATSRQ, the zero-order correlations of the ATSRQ scales and other measures were examined. In order to evaluate the level of correlations between measures, Cohen's (1988) guideline was adopted, which is frequently used in scale development studies (e.g., El-Akremi et al., in press; Kinicki et al., 2013). Accordingly, correlations were considered small if they were less than or equal to 0.30, moderate if they were greater than 0.30 but less than 0.50 and large if equal to or greater than 0.50. In terms of convergent validity, there is a significant and large positive relationship (r=0.51) between the measure of second-order attitudes towards slack resources construct and managers' trust in subordinates scale, which supports Hypothesis 1. In terms of discriminant validity, as expected, none of the ATSRQ scales was correlated significantly with negative affect, thus supporting Hypothesis 2. There were some significant correlations between some of the ATSRQ and the FFMQ scales. Nevertheless, they were all considerably less than 0.30, which supports Hypothesis 3.

In addition to Pearson correlation analyses, a series of CFA's were conducted in order to investigate empirical independence of the ATSRQ scales from managers' trust in subordinates, negative affect, and the FFMQ scales. This resulted in 7 sets of model comparisons. The baseline model in each set consisted of four factors in which the three dimensions of ATSRQ and one of the external measures were specified into separate factors. They were then compared with nested models where items of the external measure were specified to load in one of the ATSRQ scales.

A sequential Chi-square difference test was used to compare model fits between the baseline and alternative models. Accordingly, a significant difference in the Chi-square statistic between baseline and alternative models suggests the acceptance of a less constrained model, which supports the discriminant validity of the ATSRQ (Anderson and Gerbing, 1988; Kinicki et al., 2013; Steffens et al., 2016).

Table 5.2 reports the results of Chi-square difference tests, which reveal that baseline models fit better with data compared with alternative models in each set. This means that the ATSRQ scales are empirically distinct from managers' trust in subordinates, negative affect, and the big 5 personality traits.

Table 5.2: Models comparing the ATSRQ with external criteria

Models	Chi-square ($\chi 2$)	Degrees of freedom (df)	$\Delta\chi 2(\Delta df)$*
Baseline - Negative Affect (NA)	888.65	269	
NA merged with physical slack	1895.09	272	1006.44
NA merged financial slack	1723.94	272	835.3
NA merged with HR slack	1928.32	272	1039.67
Baseline - Agreeableness (Agree)	1009.04	428	
Agreeableness merged with physical slack	1979.38	431	970.34
Agreeableness merged with financial Slack	1815.26	431	806.21
Agreeableness merged with HR slack	2006.98	431	997.93
Baseline - Conscientiousness	1320.23	428	
Conscientiousness merged with physical slack	2312.81	431	992.59
Conscientiousness merged with financial slack	2126.94	431	806.71
Conscientiousness merged with HR slack	2368.00	341	1047.77

Baseline - Openness	1593.14	428	
Openness merged with physical slack	2287.23	431	694.1
Openness merged with financial slack	2320.86	431	727.72
Openness merged with HR slack	2321.58	431	728.44
Baseline - Extraversion	1447.91	428	
Extraversion merged with physical slack	2424.02	431	976.11
Extraversion merged with financial slack	2235.96	431	788.06
Extraversion merged with HR slack	2466.52	431	1018.62
Baseline - Neuroticism	1144.17	428	
Neuroticism merged with physical slack	2125.243	431	981.07
Neuroticism merged with financial slack	1944.097	431	799.93
Neuroticism merged with HR slack	2191.841	431	1047.67
Baseline - Managers' trust in subordinates (MTS)	383.511	146	
MTS merged with physical slack	768.566	149	385.06
MTS merged with financial slack	748.858	149	365.35
MTS merged with HR slack	845.19	149	461.68

Notes: N=305 (Sample 4).

* $p < 0.01$.

Discussion

The ATSRQ scales correlated positively and significantly with managers' trust in subordinates scale. Moreover, none of the ATSRQ scales had substantial and significant correlations with negative affect and big five personality traits measures. The results of Study 4 thus have provided evidence for the convergent and discriminant validity of the ATSRQ.

STUDY 5: CRITERION-RELATED VALIDITY OF THE ATSRQ

Having established the factor structure, reliability (internal consistency and test-retest reliability), and the construct (convergent and discriminant) validity of the ATSRQ, the final task remaining is to ascertain its criterion-related validity. To that end, Study 5 aims to assess criterion-related validity of the ATSRQ by examining its relationships with a series of external criteria that are theoretically connected to the ATSRQ. To the extent that significant relationships between the ATSRQ and the outcome variables were obtained, the findings would support the criterion-related validity of the ATSRQ.

Method

Research design

Common method bias (CMB) arises from "variance that is attributable to the measurement method rather than to the constructs the measures represent." (Podsakoff et al., 2003, p.879). Studies beset with (CMB) risk variously overestimating (type 1 error) or underestimating (type 2 error) true relationships between predictor and outcome variables, reflected as biased estimates in regression models (Siemsen, Roth, and Oliveira, 2010). CMB stems from properties inherent in the design of the instrument and/or from poorly formulated research designs, entailing the gathering of data in respect of both the predictor and criterion variables from common sources (Podsakoff et al., 2003).

The results of the previous studies demonstrate that the design of the ATSRQ does not yield CMB. First, in all of the previous studies items in the ATSRQ were presented in a randomized format which demands greater consideration of each item on the part of participants, thus reducing the risk of CMB (Murray, Kotabe, and Zhou, 2005). Second, in Study 2 neither the item scores nor the scale scores pertaining to the ATSRQ were found to be correlated with social desirability or negative affect, both of which can be sources of CMB (Avolio, Yammarino, and Bass, 1991). Third, the final version of the ATSRQ does not have any negatively worded items, a design feature which again is considered by some prominent commentators to be "a source of method bias" (Podsakoff et al., 2003, p. 884).

As alluded to above, CMB can also arise in studies in which both the predictor and criterion variables are assessed by means of data gathered from common sources (i.e. common raters). This form of CMB is recognized as more serious than the ones arising from problems in the instrument design (Chang, Van Witteloostuijn, and Eden, 2010).

The most commonly recommended approach in the literature to eliminate the potential problem of CMB in criterion-related validity studies is to ensure that "the dependent variable(s) are collected from a different source than the independent variables are collected from" (Chang et al., 2010, p. 179). Following Chang et al.'s recommendation, I adopted this strategy in designing the present study, thus eradicating this second potential source of CMB.

Research context and sample

The sample for the present study was drawn from the same company that provided data access in Study 3. In that study, however, data was collected from employees working at the head office. Participants in the present study were drawn from the company's retail stores. Thus, samples used in Study 3 and Study 5 were independent of each other.

There was a clear hierarchical structure in each of the stores from which the data was gathered, which was ideal for examining the consequences of managers' varying attitudes towards slack resources, as viewed by employees directly reporting to them. Each store had one store manager and a varying number of employees. These managers were the direct and only supervisors of the employees located in each of the stores.

At the time of data collection the company had more than 250 stores, all of which were based in the UK. However, due to resource constraints, it was not possible to collect data from all of the stores. Thus, data was collected from a sample of the entire population (i.e. all stores). The literature suggests that probability sampling is by far the most effective way to ensure that the final sample is representative of the entire population (Oppenheim, 2000). The sample in the present study was drawn by using the cluster sampling method of probability sampling. I opted for this approach for two main reasons.

First, the population had naturally occurring clusters, which supports the use of cluster sampling (Scheaffer et al., 2011; Sudman, Sirken, and Cowan,

1988). The company divided its stores into regions based on their geographical location and each store had a regional manager.

Second, cluster sampling allows the efficient use of resources. Some of the company stores were located in remote areas. It was not practical to travel to isolated locations to collect data from only one or two stores. Whereas simple or stratified sampling methods would have resulted in stores located in various remote locations being incorporated into the sample, cluster sampling ensured the proximity of the stores within the clusters, which enabled me to visit multiple stores in one day.

In total, the company had stores located within 25 distinct regions of the UK, and the number of stores in each region varied between 7 and 13. I used an online random integer set generator (i.e. https://www.random.org) to select 10 regions, which encompassed a total of 82 stores. I adopted a one-stage cluster sampling method, which required the inclusion of all elements in selected clusters. Since two of the stores were closed during data collection, the final number of stores in the selected regions was 80.

In order to increase the quality of the data, I visited each store in person. Research suggests that people sometimes edit their answers, even for insensitive issues such as having or not having a library card (Parry and Crossley, 1950) or voting or not voting in an election (Belli, Traugott, and Beckmann, 2001). Considering the fact that store employees were being asked to evaluate their managers and the employing organization, they might well have edited their

responses, unless they were sufficiently confident that their responses were to be kept anonymous.

My store visits increased employees' trust in anonymity for several reasons. First, I held face-to-face conversations with the employees to highlight that there were no right or wrong answers to the questions and to reassure them that all results would be rendered anonymous and presented in an aggregated format. Second, having a chance to introduce myself and the research enabled potential participants to see that the data collection was purely for my doctoral research and future academic publications. Third, my presence during data collection assured participating employees that their responses were not being monitored by third party intermediaries. For the avoidance of any doubt in this respect, I only collected data from employees who were present in the stores during my visits. Last, but not least, because I collected the data in person during my visits to the stores, I was able match manager-subordinate responses by coding them in situ, upon completion of the data collection, further safeguarding my assurances of anonymity.

At the time of data collection, the company had a strict policy of information protection. Employees were not allowed to participate in any study without having permission from the head office. After deciding which stores to visit by implementing the cluster sampling method, I shared my schedule for store visits with the head office so that store employees were informed regarding data collection and granted permission for participation. In addition, the head office suggested that, if possible, store managers be present in stores

on the days of the visit. From my visit to 80 stores, I was unable to meet nine of the store managers. Nevertheless, I was able to receive their responses by mail. As reported in Studies 1 and 2 in the previous chapter, the ATSRQ scales do not have significant correlations with the Crowne-Marlowe social desirability scale. Managers have no reasons to be afraid of the results being instrumental in sensitive issues. Hence, it was unlikely that my absence when these particular managers completed their questionnaires biased their responses. In these cases, I left the relevant questionnaire booklet and a prepaid envelope, so that managers in question could complete the questionnaires and mail them directly to me. Even though the ATSRQ does not include sensitive items, by putting my name and an address that is in a different city from the head office on the envelope ensured the perceived independence of the research from the company.

To enable me to match the data of these nine managers with the data gathered from their respective groups of employees, each envelope had a unique tracking number. All nine of these managers returned their completed questionnaires within ten days.

I visited all of the 80 stores that were selected with the one-stage cluster sampling method. All employees working in the stores during my visit agreed to participate in the study, except one who did not want to participate without giving any reason. In total 80 managers and 154 store employees participated in the study. One manager's report was not usable, which led to the elimination of subordinate responses from the relevant store. There were two unusable

subordinate responses in other stores. Consequently, the final sample consisted of 79 managers and 150 subordinates.

As the company specializes in women's apparel, except for two managers and three subordinates, all of the participants were female. In the managers' sample the mean age was 35.4 years (SD=9.2) and the mean work experience was 17.5 years (SD=9.4). Their average tenure in the firm is 6.3 years (SD=3.4). In the subordinates' sample the mean age was 27 years (SD=8.1) and the mean work experience was 8.5 years (SD=7.7). Their average tenure in the company is 2.9 years (SD=2.6). Participants in both samples were overwhelmingly British (96%).

Hypothesis development

Criterion-related validity of the ATSRQ was ascertained in relation to five dependent variables: access to resources, work autonomy, decision latitude, perceived organizational support, and leader-member exchange. The hypothesized relationships between the ATSRQ and criterion variables are developed in the following subsections.

Access to resources

Accessibility of resources in the workplace has a considerable impact on employees' attitudes and behaviours. While RBV scholars support employees' easy access to resources, scholars favouring the agency theory tradition argue that this may hinder organizational performance.

One of the main reasons that RBV scholars advocate employees' access to resources is its positive impact on personnel morale. Organizational resources are critically important for employees to carry out the tasks that are part of their jobs. Thus, employees having limited access to resources may feel unable to do their jobs properly. Studies show that having problems accessing resources leads employees to experience emotional exhaustion and burnout (Leiter, 1991; Wright and Cropanzano, 1998).

Viewed from the RBV perspective, another reason that a lack of employee access to resources might impact adversely on organizations is that such resources contribute to the organization's repertoire of distinctive capabilities, the latter being crucial for achieving competitive advantage (March, 1991). Resource access gives employees opportunities to use their existing skills and develop new ones. From the RBV perspective, skill development of employees is in the interest of both employees and organizations. Acquiring skills and capabilities helps employees to achieve their career objectives. Thus, it is expected that employees having access to resources will show positive attitudes and behaviours in the workplace, not least in terms of job satisfaction (Danna and Griffin, 1999; Sarmiento, Laschinger, and Iwasiw, 2004). The benefits to organizations are twofold. First, satisfied employees are likely to exhibit superior job performance (Judge et al., 2001; Yousef, 2000). Second, cooperation of skilled employees, who are supplied with an adequate amount of resources, may contribute to organizational capabilities, such as innovativeness (Scott and Bruce, 1994)

Employees' easy access to resources is considered as a threat in agency theory arguments. One of the main assumptions in agency theory is the existence of goal incongruence between employees and employing organizations. Accordingly, employees are expected to use available resources in line with their career plans, at the expense of organizational objectives. Reflecting this view, managers who restrict employees' access to resources are unlikely to enjoy trusting relationships with employees.

Another argument levelled against enabling employee access to resources raised by scholars is the danger of fostering over qualification due to (excessive) skill development. Employees feeling that they are overqualified may think that their jobs do not fit them anymore, with the attendant dangers of job dissatisfaction (Green and Zhu, 2010; Maynard, Joseph, and Maynard, 2006) and low performance in the workplace (Bolino, and Feldman, 2000; Feldman, 1996). Instead of feeling responsible to their organizations for the acquisition of new skills as RBV scholars expect (Fuller, Marler, and Hester, 2006), they might actively search for jobs outside their organizations. Empirical evidence suggests that the intention to quit among overqualified employees is higher than average (Erdogan and Bauer, 2009). As a result, employees' new skill development with organizational resources may cause organizations to lose skills, rather than gaining them.

In summary, one of the fundamental decisions that managers are regularly involved in is the allocation of resources among employees. If managers are more in line with RBV arguments, they may want to have excess resources to be

allocated to their employees. In contrast, if they are concerned that employees are likely to pursue their own agenda at the expense of organizational objectives, they might have negative attitudes towards slack resources which would restrict employees' access to resources. Therefore, it can be argued that managers' attitudes towards slack resources have consequences for their employees. Accordingly, I hypothesize the following.

Hypothesis 1: The more positive managers' attitudes towards slack, the greater their employees' perceptions of access to resources.

Work autonomy

Work autonomy is a job characteristic which is found to be related to various outcomes in organizations, such as absenteeism (Schaufeli, Bakker, and Van Rhenen, 2009) and job performance (Cohen and Bailey, 1997; Morgeson, Delaney-Klinger, and Hemingway, 2005). Work autonomy is defined as "the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying out" (Hackman and Oldham, 1975, p.162).

The definition highlights that discretion and task independence are two important indicators of work autonomy. Organizational slack is related to both discretion and task independence. One of the few issues regarding organization slack where there is a broad consensus among scholars is that excess resources increase the level of discretion in the workplace. Since discretion is one of the defining features of work autonomy, it can be expected that organizational slack

enhances the degree of work autonomy employees perceive. In addition, excess resources support employees' independence from other colleagues to do their jobs by minimizing the necessity of resource sharing (March and Simon, 1958; Thompson, 1967). Considering the theoretical connection between work autonomy and slack resources, the following hypothesis is suggested.

Hypothesis 2: The more positive managers' attitudes towards slack resources, the greater the perceived autonomy of their employees.

Decision latitude

Decision latitude is "the degree of control a person has over his or her work" (Chua and Iyengar, 2011, p. 864). It is a multidimensional construct comprising two dimensions: decision authority and skill utilization. Starting from the latter, skill utilization can be defined as the opportunity to use skills in the workplace. Earlier, I argued in the access to resources section that organizational resources are the primary means for enabling employees to use their skills. Thus, the skill utilization dimension of decision latitude should reflect the availability of resources in the workplace.

Whereas skill utilization reflects access to resources, decision authority reflects work autonomy. One of the defining characteristics of work autonomy is discretion, which is defined as "the latitude of action" (Finkelstein and Hambrick, 1990, p. 484). Since decisions guide actions, having authority over decisions in the workplace is a necessary condition for discretion and work autonomy. In fact, scholars often use decision latitude and discretion interchangeably (e.g., Karasek,

1979; Freider, Hochwarter, and DeOrtentiis, 2015). Excess resources increase the level of employee discretion.

To sum up, both dimensions of decision latitude are related to the availability of excess resources. Consistent with this reasoning, the following hypothesis is proposed.

Hypothesis 3: Managers' attitudes towards slack resources are predictive of employees' decision latitude. More specifically, the more positive managers' attitudes towards slack, the greater their employees' perceptions of decision latitude. Conversely, the more negative managers' attitude towards slack resources, the lower the magnitude of their employees' perceptions of decision latitude.

Leadership-member exchange

Leader-member exchange (LMX) theory is mainly concerned with the relationship between leaders and members (i.e. subordinates) in organizations (Dansereau, Graen, and Haga, 1975; Graen and Cashman, 1975). A large body of empirical research shows that the quality of the exchange between leaders and members affects many decisions and behaviours in the workplace, such as job satisfaction (Harris, Wheeler, and Kacmar, 2009), organizational citizenship behaviour (Ilies, Nahrgang, and Morgeson, 2007), employee performance (Bauer et al., 2006), and employee turnover (Dulebohn et al., 2012).

LMX is an exchange of tangible and intangible resources between leaders and members. High-quality LMX relationships are characterized by mutual trust

and obligation (Bernerth, Walker, and Harris, 2016; Lau and Liden, 2008; Pellegrini and Scandura, 2006). Trusted employees are likely to receive resources that are above and beyond those specified in formal employment contracts. In return, employees feel obligated to fulfil the expectations of their leaders.

Managers' attitudes towards slack resources give an indication of whether they take into account the needs and expectations of employees or whether they prefer having standardized relationships based on formal contracts. Excess resources give flexibility to managers to establish idiosyncratic relationships in which they value employees' contribution and well-being in the workplace. For instance, store managers may use extra funds to recognise the hard work of employees with financial rewards. Excess physical space may be allocated to personnel to improve working conditions, or excess personnel might be allocated to particular teams, thus enabling certain employees to arrange work shifts with fewer constraints. These special arrangements can only exist with the availability of excess resources. Thus, managers' attitudes towards slack resources are critically important for the quality of LMX relationships in the workplace.

Managers having negative attitudes towards slack resources are likely to have lower quality LMX relationships. Reflecting their beliefs regarding the (adverse) impact of excess resources, they will want to remove such excess resources that may emerge in the workplace. Consequently, employees will feel that their managers do not trust them, which will in turn hinder the quality of LMX. Moreover, managers holding such negative attitudes will likely monitor closely their employees in order to make sure that they do not take "undue"

advantage of resources that are accessible. Such close scrutiny by managers reflects a lack of trust, which in turn hinders LMX (Ferrin, Bligh, and Kohles, 2007; Levin, Whitener, and Cross, 2006). Hence:

Hypothesis 4: The more positive managers' attitudes toward slack resources, the greater the quality of leader-member exchange; conversely, the more negative managers' attitudes toward slack resources, the lower the quality of leader-member exchange.

Perceived organizational support

Perceived organizational support (POS) is defined as the degree to which employees feel that their employing organizations "value their contributions and care about their well-being" (Eisenberger et al., 1997, p. 812). While the relationship between organizations and employees is highly complex, it can be analysed as a reciprocal relationship (Coyle-Shapiro and Conway, 2005; Farh, Hackett, and Liang, 2007; Rousseau, 1990). Applying the norm of reciprocity to the employment relationship, employees' positive attitudes and behaviour in the workplace will depend on their perceptions of the treatment they receive from their organizations.

Organizational support theory scholars argue that the reciprocal relationship between employees and organizations are largely established through the agents of organizations (e.g., Eisenberger et al., 1986; Kottke and Sharafinski, 1988). For this reason, the treatment that employees receive from their managers shape their perceptions regarding the organization.

The sample of this study is highly suitable for examining the impact of managerial attitudes and behaviours on POS. Store employees do not have any direct contact with the head office. The only contact with managerial levels they have within the company is their store managers, which makes the store managers natural agents of the company for employees. The managers mediate much of the relationship between the organization and employees by undertaking a wide range of tasks. For instance, performance evaluation and job design of employees are two of the tasks, both of which affect employees' well-being and future careers in the company. Thus, employees are likely to believe that decisions taken by managers reflect company policy. It may be assumed, therefore, that store managers' decisions and actions largely determine employees' perceived organizational support.

The impact of agents' decisions and actions on POS is likely to differ with respect to the extent to which they are based on voluntary choice (Eisenberger et al., 2002). Decisions based on voluntary choice of agents have substantial influence on POS. In contrast, decisions and actions regarding issues that are regulated and monitored by third parties (e.g., governmental agencies, trade unions) do not give a clear indication to employees whether the organization genuinely cares about their well-being, thus having limited impact on POS. For instance, health and safety training, which is a legal requirement, has little influence on POS because organizations have no choice but to provide such training. Thus, employees most probably do not see it as a treatment that shows the organization's commitment to their well-being. Managers' decisions

regarding promotion and work scheduling, on the other hand, are likely to have substantial impact on POS because they are largely based on managerial discretion. As we have seen, excess resources allow managers to take discretionary action to address idiosyncratic expectations of employees. In the light of these arguments, I hypothesize the following.

Hypothesis 5: The more positive managers' attitudes towards slack resources, the greater the extent to which their employees will perceive organizational support. Conversely, the more negative managers' attitudes towards slack resources, the lesser the extent to which employees will perceive organizational support.

Materials and procedure

The data collection instruments for Study 5 are reported in Appendix 8. As explained earlier, whereas the independent variable was collected from store managers, the dependent variables were collected from store employees.

Independent variable

Attitudes towards slack resources: The three-factor, 15-item ATSRQ was used to measure managers' attitudes towards slack resources.

Dependent variables

Access to resources: This was measured by Spreitzers' (1996) 3-item, 7-point (1= strongly disagree, 7=strongly agree) scale. A sample item is "I have access to the resources I need to do my job well."

Work autonomy: Due to its brevity and favourable psychometric properties, which have been cross-validated in the literature (e.g. Beenen and Rousseau, 2010; Beenen, Pichler, and Levy, 2017), Hackman and Oldham's (1975) three-item scale was used to measure work autonomy. Responses ranged from *strongly disagree* (1) to *strongly agree* (6). A sample item is "I have a lot of flexibility in how I complete my work."

Decision latitude: This was measured with nine items derived from the Job Content Questionnaire (Karasek, 1985). Responses ranged from *strongly disagree* (1) to *strongly agree* (4). A sample item is "My job allows me to make a lot of decisions on my own."

Perceived organizational support (POS): Empirical research on POS started with Eisenberger et al.'s (1986) seminal work which reported the development and validation of the 36-item Survey of Perceived Organizational Support (SPOS). Thanks to the unidimensional factor structure and high reliability (internal consistency) of the original scale, Rhoades and Eisenberger (2002, p. 699) argue that "the use of shorter versions does not appear problematic". Empirical studies have indeed provided evidence that the eight-item version of SPOS has high internal consistency and unidimensionality (e.g., Dulac et al., 2008; Eisenberger et al., 1997, 2014; Shoss et al., 2013). Therefore, Eisenberger et al.'s (1997) eight-item version of the SPOS was used for present purposes. A sample item is "My organization cares about my opinions". Responses were made on a seven-point scale, ranging from *strongly disagree* (1) to *strongly agree* (7).

Leader-member exchange (LMX): Some scholars developed a multidimensional measure of LMX by arguing that the complexity of the relationship between leaders and members can be examined better with a multidimensional construct (Dienesch and Liden, 1986; Greguras and Ford, 2006; Liden and Maslyn, 1998). Nevertheless, they were not able to provide strong empirical support for multidimensionality. Exploratory factor analysis did not reveal three separate factors for the hypothesized affect, loyalty, and contribution dimensions. Compared with mixed results in multidimensional measures, consistent findings for single measures directed scholars to adopt a unidimensional conceptualization in their research (e.g., Epitropaki et al., 2016; Matta et al., 2015; Raghuram et al., 2017; Yoon and Bono, 2016). Due to better psychometric properties over multidimensional scales, the seven-item, five-point LMX-7 scale (Graen and Uhl-Bien, 1995) was used to measure leader-member exchange. A sample item is "How effective is your working relationship with your leader?"

Results

The dataset of this study is hierarchical; employees are nested within stores. There are three statistical procedures to analyse nested data, which are aggregation, disaggregation, and multilevel modelling. In the disaggregation approach higher level variables are taken down to level 1, which causes a loss of between level variations. In the aggregation approach, in contrast, lower level variables are raised to the highest level in the model, thus ignoring within-level variations. More importantly, both approaches are based on the independence

of observations, which is violated in hierarchical data. Covariation of variables within the various levels, due to the nested nature of the data, leads to serious errors in the parameter estimates of most statistical models, including ordinary least square (OLS) regression (Aguinis, Gottfredson, and Culpepper, 2013; Hox, 2010). By simultaneously analysing relationships between variables at different levels, the multilevel modelling approach yields more accurate estimates of parameters (LaHuis et al., 2014, Mathieu et al., 2012). Therefore, the hypotheses were tested with the multilevel modelling approach.

Data was analysed with version 3.0 of MLwiN, a software package that was devised specifically for fitting multilevel models (Rasbash et al., 2017). MLwiN uses the interactive generalized least squares (IGLS) technique, which makes it superior to alternative established multilevel software packages such as HLM (Castellaneta and Gottschalg, 2016; Olsson, Hemlin, and Pousette, 2012).

Table 5.3 shows the descriptive statistics of the variables incorporated in the present study. Cronbach's alpha statistics, which are reported in the diagonal of Table 5.3, are all above the requisite 0.70 threshold, showing that there are no problems regarding internal consistency reliabilities of the measures (cf. Nunnally, 1978).

Table 5.3: Correlations and reliability estimates

	1	2	3	4	5	6	Mean	SD
1. ATSRQ	0.94						3.51	0.68
2. Decision latitude	0.23**	0.81					2.99	0.46
3. Access to resources	0.34**	0.19*	0.86				5.41	1.25
4. Work autonomy	0.43**	0.21**	0.35**	0.72			3.88	0.94
5. LMX[1]	0.48**	0.29**	0.51**	0.49**	0.91		4.11	0.78
6. POS[2]	0.34**	0.27**	0.61**	0.31**	0.45**	0.91	4.66	1.49

Notes: N=150 subordinates nested in N=79 managers. Cronbach's alphas are reported in the diagonal. Negatively worded items are reversed scored. To facilitate comparisons across variables, scale scores are divided by the number of items.
[1] LMX: leader-member exchange.
[2] POS: perceived organizational support.
* p<0.05 (2-tailed).
** p<0.01 (2-tailed).

Demographic variables of participants were not significantly correlated with any of the dependent variables. Adding them in further analyses as control variables would have limited impact on the dependent variables but reduce the statistical power of analyses (Carlson and Wu, 2012). Thus, following recommendations in the literature (e.g. Becker, 2005; Becker et al., 2016; Breaugh, 2008; Bernerth and Aguinis, 2016), the demographic variables were dropped from further analyses.

The suitability of the multilevel modelling approach to the dataset was examined with a deviance difference test before testing the hypotheses (Gkorezis et al., 2016; Petrou, Bakker, and Van den Heuvel, 2017). As Table 5.4 shows, multilevel modelling of intercept only models fit better with the data compared with one-level models. Thus, multilevel modelling was used to test the hypotheses.

Table 5.4: Comparison of null models

Models	-2 x log	Δ-2 x log
Access to resources		
2-level model	482.39	
1-level model	491.15	8.76*
Perceived organizational support		
2-level model	517.59	
1-level model	544.36	26.77*
Leader-member exchange		
2-level model	332.54	
1-level model	351.94	19.4*
Work autonomy		
2-level model	385.94	
1-level model	405.99	20.05*
Decision latitude		
2-level model	182.38	
1-level model	192.64	10.26*

Notes: N=150 subordinates nested in N=79 managers.
*p< 0.01

Each hypothesis was tested with the help of two models. Model 1 for each dependent variable has work experience of store employees as an independent variable. Model 2 replaces the work experience variable with the ATSRQ. Hypotheses were assessed by examining two statistics. The first is the regression coefficient of ATSRQ. Significant regression coefficients (β) would suggest that attitudes towards slack resources predict criterion variables. The second is the increase in R-squared between Model 1 and Model 2.

Table 5.5 shows the empirical findings which reveal the relationships of the ATSRQ with criterion variables. Regression coefficients of the ATSRQ suggest that it is correlated with all of the dependent variables (all p's<0.01). In addition, the

increase in R-squared by replacing the work experience variable with the ATSRQ in Model 2 suggests that it has explanatory power in respect of all of the examined dependent variables. The results presented in Table 5.5, therefore, provide support for all of the hypotheses, thus substantiating the criterion-related validity of the ATSRQ.

Table 5.5: Multilevel regression results

	Dependent variable: LMX				Dependent variable: POS			
	Model 1		Model 2		Model 1		Model 2	
Variables	β	SE	β	SE	β	SE	β	SE
Intercept	4.10*	0.08	4.00*	0.06	4.63*	0.15	4.62*	0.14
Work experience	0.10	0.01	-	-	-0.01	0.01	-	-
ATSRQ			0.56*	0.10			0.77*	0.21
ΔR^2			0.23				0.12	
Increase in model fit (Δ-2 x log)			25.19				11.68	

	Dependent variable: Work autonomy				Dependent variable: Access to resources			
	Model 1		Model 2		Model 1		Model 2	
Variables	β	SE	β	SE	β	SE	β	SE
Intercept	3.86*	0.09	3.86*	0.08	5.39*	0.11	5.39*	0.1
Work experience	0	0.01	-	-	-0.01	0.01	-	-
ATSRQ			0.59	0.12			0.66*	0.16
ΔR^2			0.18				0.12	
Increase in model fit (Δ-2 x log)			20.68				14.74	

	Dependent variable: Decision latitude			
	Model 1		Model 2	
Variables	β	SE	β	SE
Intercept	2.98*	0.04	2.98*	0.04
Work experience	-0.01	0	-	-
ATSRQ			0.17*	0.06
ΔR^2			0.05	
Increase in model fit (Δ-2 x log)			4.87	

Notes: 150 subordinates nested in 79 managers.
*p<0.01 (2-tailed).

LMX: Leadership-member exchange.

POS: Perceived organizational support.

ATSRQ: Attitudes towards slack resources questionnaire.

Discussion

The purpose of Study 5 was to ascertain the criterion-related validity of the ATSRQ. To this end, I examined the associations between the ATSRQ and a series of employee-related outcome variables. The results provided strong evidence for the criterion-related validity for the new measure.

General Discussion

Attitudes are likely to lead our behaviours and decisions. They can be considered as stored evaluations which influence our choices among alternatives and in turn, behaviours (Petty, Briñol, and DeMarree, 2007). Nevertheless, research shows that peoples' attitudes and behaviours are not always consistent (e.g., Azjen and Fishbein, 1977; Dempsey and Mitchell, 2010; Homer and Kahle, 1988). There is a considerable amount of research examining the factors affecting the relationship between attitudes and behaviours.

One of the frameworks that is frequently used to investigate attitude-behaviour relationship is Fazio's (1990) MODE (Motivation and Opportunity as Determinants) model. As its name suggests, the MODE model proposes that the strength of the relationship between explicit attitudes and behaviours largely depends on people's motivation and opportunity to reflect their attitudes on decisions and behaviours.

The strength of the relationship between managers' attitudes towards slack resources and employees' access to resources largely depends on the

extent to which managerial attitudes turn into practice via decisions and actions. Thus, compared with other outcomes, the relative weakness of the ATSRQ in predicting employees' access to resources indicates a discrepancy between managers' attitudes and behaviours.

In order to explain the opportunity factor in attitude-behaviour relationships, Fazio (1990) argues that people should have enough time and resources for deliberative processing. Considering the limited opportunities that store managers have in the workplace, it is not surprising to witness a discrepancy between managers' attitudes and behaviours regarding slack resources. Store managers are generally quite busy with administrative tasks. They may not have enough time to consider the level of slack resources. Moreover, their limited cognitive processing capabilities would prevent them perceiving slack resources even if they have no time constraints. Thus, it can be argued that their negative attitudes towards slack resources dot not considerably affect employees' access to resources.

While the opportunity dimension was largely associated with individual's cognitive resources for making deliberate actions at the initial development of the model, it was later explained that the concept is meant to cover a wide range of elements (Olson and Fazio, 2008). Indeed, in addition to cognitive resources, managers holding positive attitudes towards slack resources also need to have excessive organizational resources to act consistently with their attitudes. Unfortunately, however, the nature of the industry as a whole and the particular dynamics of the strategic group that the company belong to is likely to limit the

availability of slack resources under the direct control of store managers. The company is one of low cost providers in the women's fashion industry. The business strategy is formulated to offer season trends with the lowest prices possible. Having vertically integrated operations helps the company to keep up with the trends in the market. The company has offshore production facilities all around the world. More than half of the products sold in its stores are produced in company-owned sites. All of the stores are managed by the head office. The design team closely follows the new styles of fashion houses and work together with the manufacturing team to add new lines to the stores as soon as possible. According to the company executives, the key success factor is the fast delivery of fashionable items with the lowest prices.

Parallel to the strategic position of the company in the industry, it targets low-income customers who have a very limited budget for clothes. The quality of the products (e.g., material, craftsmanship) and customer service are secondary issues for them. Thus, the company prioritises to keep expenses as low as possible in operations, including stores, which diminishes the availability of excess resources. Since managers do not receive excess resources, they cannot turn their positive attitudes towards slack resources into practice, which seems to be one of the reasons why the predictive power of the ATSRQ is one of the lowest in access to resources.

While having excess resources in the workplace is a necessary condition for a strong relationship between the ATSRQ and access to resources, it is not necessary to see the impact of managers' attitudes on employees' perceived

work autonomy. That may be one of the reasons why the ATSRQ predicts work autonomy better compared with access to resources.

Compared with other outcome variables, the ATSRQ had the lowest impact on decision latitude. As mentioned earlier, one of the two dimensions of decision latitude is skill utilization which is strongly related to job characteristics and conditions in the workplace. This may be one of the main reasons behind the poor relationship between the ATSRQ and decision latitude by restricting the impact of slack resources on employees' skill utilization. Store employees are at the bottom of the hierarchy. They undertake a number of tasks in stores, but none of them requires high skills. Having authority for decisions in mechanical issues does not necessarily make employees feel that they have enough opportunities to use their skills. Moreover, the company is not interested in investing in entry-level employees for skill utilization or development because they are not considered as potential managers. Apart from some rare examples, store employees do not have a chance to obtain senior positions.

Another important finding is that managers' attitudes towards slack resources predicts LMX better than POS. This may arise from the fact that managers having strong inter-personal relationships with their subordinates may distinguish themselves from being a representative of the organization in the eyes of subordinates.

One of the main arguments of organizational support theory, which theoretically links attitudes towards slack resources and POS, is that good or bad

treatment received from managers may be easily associated to the organization by employees. Nevertheless, strong inter-personal relationship between managers and employees may hinder this linkage. Managers can convince subordinates that actions which have negative consequences on subordinates are demanded by the organization. Applying this logic to Study 5's results, managers might trust employees and have positive attitudes towards slack resources. However, they might not receive excess resources from the head office. They then blame the head office for the problems arising in the workplace due to lack of slack resources. Managers are not seen as representatives of the firm anymore, which might supress the relationship between the ATSRQ and POS.

Conclusion

This chapter aimed to establish a nomological network for the ATSRQ with two empirical studies. The results of Study 4 showed that managers' attitudes towards slack resources were related to their trust in subordinates, which supported the convergent validity of the ATSRQ. The results also revealed that the ATSRQ scales were not correlated significantly with negative affect and the big five personality traits, which maintained the discriminant validity of the new instrument.

Study 5 was conducted to assess criterion-related validity of the ATSRQ. Results showed that the ATSRQ accounted for a significant amount of variance in various outcome variables. The results suggested that managers' attitudes

towards slack resources is an important factor for employees' attitudes and behaviours in the workplace.

In summary, the results of the empirical studies reported in the current and previous chapter provide clear and convincing evidence for the construct validity of the ATSRQ. The new instrument offers an efficient solution to scholars to integrate the impact of managerial discretion regarding slack resources into their research. The following chapter discusses the implications and limitations of the current research together with avenues for future studies.

CHAPTER 6: CONCLUSION

The primary aim of this thesis is to gain fundamental insights into the reasons behind the ambiguous relationship observed in previous work between organizational slack and firm performance. In order to reconcile conflicting theoretical arguments regarding organizational slack, scholars examine various moderators and mediators affecting the relationship between organizational slack and firm performance (e.g. Alessandri and Pattit, 2014; Cheng and Kesner, 1997; George, 2005). However, inconclusive empirical findings prevent scholars from providing solid explanations regarding the role played by slack resources in organizations.

The main limitation in previous empirical studies is that they are restricted to examine observable factors exclusively, such as industry complexity (e.g., George, 2005), environmental munificence (e.g., Bradley et al., 2011), and ownership structure of the firm (e.g., Stan et al., 2014). By adopting a critical realist epistemology, it is argued in this thesis that there might be some underlying mechanisms that affect the consequences of slack resources in organizations and in turn, give rise to conflicting empirical results. For this reason, this thesis investigated one of the fundamental factors underlying the diversity in empirical findings, i.e. managerial discretion. Despite repeated calls (e.g., Dong, 2016; Greenley and Oktemgil, 1998; McKelvie et al., 2006) there has been no attempt in the literature to examine the impact of managerial discretion on the relationship between organizational slack and firm performance. This thesis has addressed this

limitation in the literature by developing and validating a new instrument: the Attitudes Towards Slack Resources Questionnaire (ATSRQ).

The ATSRQ was developed with five empirical studies encompassing a total sample of 1099 participants. The three studies reported in Chapter 4 were concerned with dimensionality and reliability of the new instrument. These studies yielded the final version of the internally consistent, three-dimensional instrument which consists of 15 items. The next two studies reported in Chapter 5 provided a nomological network for the ATSRQ. The significant relationships between the ATSRQ and other organizational constructs suggest that the ATSRQ has a great deal of potential to contribute future research on organizational slack.

One of the contributions of this thesis is the change of the focus of research on organizational slack from observable events to underlying mechanisms. Empirical findings of this thesis demonstrate that managers hold varying attitudes towards slack resources, which affect some of the key personnel psychology variables. Instead of fruitless attempts to provide definitive answers regarding the impact of slack resources on organizations, scholars can contribute to knowledge by identifying the role of underlying mechanisms in the organizational slack-firm performance relationship.

Shifting the focus of research from observable events to underlying mechanisms requires the adoption of novel research methods. Accordingly, this thesis is one of the first attempts to integrate the cognitive modelling perspective into the research on organizational slack. My review of the literature revealed that

scholars interpreted their empirical results regarding organizational slack with various untested assumptions about managerial attitudes and behaviours. Adopting a cognitive perspective allowed me to look inside the black box of managerial discretion by revealing managers' attitudes towards slack resources and their consequences in the workplace.

Significant findings of the present research signals that a more fundamental contribution lies in the application of the construct valid ATSRQ in future studies. Results of Study 5 already show that the ATSRQ is an effective instrument to gain new insights regarding leadership practices and personnel psychology. The hope is that this thesis, particularly the ATSRQ, will provide a fresh impetus for further studies that advance our understanding of organizational slack and other related organizational phenomena. For this reason, the following section discusses future research avenues in greater detail. Some of the future research directions arise from the limitations of the present research. Thus, limitations of the current research and future research directions are discussed together.

Limitations and future research directions

The present research is, of course, not without its limitations, some of which suggest a need of further research. Firstly, it should be noted that data collection for three of the empirical studies (i.e. Studies 1, 2, and 4) was conducted with self-report online questionnaires. Prior research shows that online questionnaires are susceptible to careless responding, especially when questionnaires are long and respondents are kept anonymous (Huang, Liu, and Bowling, 2015; Meade and

Craig, 2012). In order to detect and remove careless participants from the final datasets, responses were screened with two criteria. Participants who completed the study unrealistically quickly and/or gave a wrong answer to the instructional manipulation checks item were eliminated.

The second limitation is that the construct validity of the ATSRQ was assessed with self-report measures exclusively. Causal relationships between variables that are measured with same methods have a potential risk of common method variance (CMV) bias (Johnson et al., 2011; Podsakoff et al., 2003). In order to minimize the impact of CMV, several precautions were taken in data collection protocols. First of all, it was made clear to the participants that responses would be kept anonymous and data collected would be presented in an aggregated format, because such anonymity assurance reduces the likelihood of response editing (Chang et al., 2010; Conway and Lance, 2010; Podsakoff et al., 2003, 2012). Second, biographical questions were located at the end of the data collection instruments and participants were not provided with an option to go back and change their responses in online studies. Third, independent and dependent variables were collected from different sources in Study 5, which is recognized as "the best way to avoid or minimize any potential CMV bias" (Chang et al., 2010, p. 179).

The precautions taken in the data collection process obviously make the empirical results less prone to CMV. Nevertheless, these precautions are not able to completely remove the impact of CMV. Further research is needed to assess the construct validity of the ATSRQ with variables measured in different methods.

For instance, objective measures of employee absenteeism and employee turnover can be used to extend the nomological network of the ATSRQ.

Another weakness of this thesis is the potential lack of generalizability of the findings across socio-culturally different countries due to the fact that all of the samples are drawn from the UK. The main reason for exclusively using UK drawn samples was to demonstrate the full set of psychometric properties of the ATSRQ in the UK and in turn, ascertain that the new instrument is construct valid in the UK context. Empirical studies show that psychometric properties of measures can be substantially different across countries (Parameswaran and Yaprak, 1987; Steenkamp and Baumgartner, 1998; Wasti et al., 2007). Thus, in order to use the ATSRQ in cross-cultural studies, further research is needed to examine the measurement equivalence of the ATSRQ across countries of interest. There is an opportunity for scholars to translate the new instrument into local languages and compare psychometric properties of the local versions of the ATSRQ with the original version (see Schaffer and Riordan (2003) for best practice recommendations for cross-validation of measurement instruments).

The sample for Study 1 was drawn from the University's online research participation scheme. Thus, most of the participants were students. There are serious concerns in the literature regarding the generalizability of the results from student samples. Nevertheless, the biographical characteristics of the student sample and the use of non-student samples in the later stages of scale development overcame most of the limitations associated with student samples.

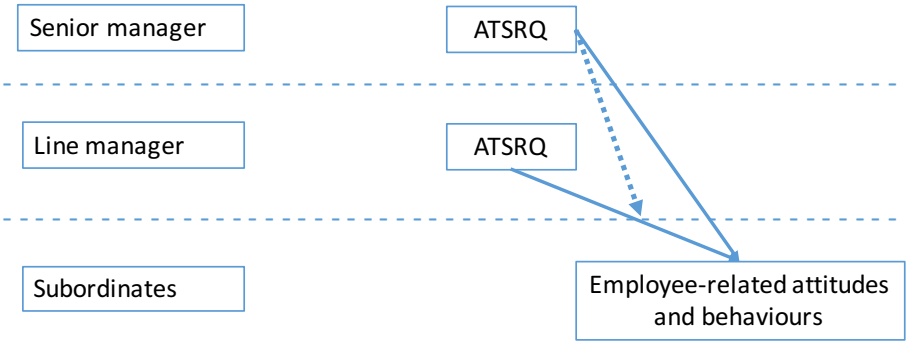
One of the factors that affects the strength and persistence of attitudes is the amount of knowledge individuals hold in relation to attitude objects (Brannon, Tagler, and Eagly, 2007; Krosnick and Petty, 1995; Petty et al., 2007). Due to their limited contact with some of the attitude objects, university students are argued to have "less-crystallised attitudes" compared with working adults (Sears, 1986, p. 515). In order to ensure that all participants in the final dataset have some understanding of organizational resources, participants without work experience were removed from the final sample of Study 1. Studies show that work experience indeed minimizes generalizability problems of student samples (Erdogan, Bauer, and Taylor, 2015; Liden et al., 2015; Shipp et al., 2009).

Student samples are frequently used as a first step in investigating managerial attitudes and behaviours in management and organizational studies (e.g. Audia, Locke, and Smith, 2000; Haynie and Shepherd, 2009; Liden et al., 2015; Webb and Peck, 2015). In order to avoid limitations of student samples, Peterson (2001, p. 458) suggests that "research results based on college students need to be replicated with nonstudent subjects prior to the generation of universal principles". Following Peterson's suggestion, the results of Study 1 were tested with non-student samples in subsequent studies. The factor structure derived from Study 1 was confirmed in Study 2 and the reliability of the ATSRQ scales was validated with four independent non-student samples. Since the results obtained from the student sample were fully reproduced in the later stages of scale development, it can be concluded that the results of this research are generalizable to organizational settings.

The sample for Study 5 was drawn from a low cost fashion retailer where the availability of organizational slack in its stores was rather limited. It is possible that some of the store managers did not encounter any issues regarding excess resources in the workplace, which hinders the strength of their attitudes and in turn, results in low attitude-behaviour consistency (Krosnick and Smith, 1994; Tesser, Martin, and Mendolia, 1995). Future research in different sectors where firms are likely to hold slack resources would therefore be highly beneficial. For instance, samples drawn from R&D intensive sectors, such as healthcare and technology, would be suitable to observe the impact of the ATSRQ on a wide range of processes and outcomes.

Decisions regarding slack resources involve multiple decision makers in most organizations, including the company used in Study 5. Even though store managers are responsible for decisions regarding the utilization of excess resources in the workplace, they have limited impact on the level of slack resources in their stores. Accumulation of resources in stores is largely determined by the regional managers and the head office. In future studies, scholars should attempt to take into account all of the parties involved in the decisions regarding slack resources. As shown in Figure 6.1, in future studies researchers may consider using a three-level model, which distinguishes managers according to their area of authority over slack resources. Figure 6.1 indicates that while the senior manager determines the level of slack resources, the line manager is responsible for the utilization of organizational slack in the workplace.

Figure 6.1: Three-level model for future studies



Validation studies reported in Chapter 5 demonstrate that managers' attitudes towards slack resources are related to some key organizational phenomena. However, these studies only reveal the role of attitudes towards slack resources as an antecedent of organizational phenomena. Further research is required to extend the nomological network of the ATSRQ by investigating its antecedents. Some of the possible antecedent variables worthy of testing include organizational citizenship behaviour of subordinates, the industry and functional department in which employees work.

Compared with implicit attitudes, explicit attitudes are better predictors of behaviours and decisions that are made through deliberate evaluation processes. This is one of the main reasons why the ATSRQ is designed to measure individuals' explicit attitudes. Nevertheless, an implicit measure of attitudes towards slack resources undoubtedly advances our knowledge about the structure of attitudes towards slack resources. In future studies scholars may assess the particular strength of explicit and implicit measures in explaining various organizational phenomena.

Significant results obtained from the empirical studies indicate that the cognitive modelling perspective holds considerable potential to advance understanding of the role played by slack resources in organizations. Future studies should be able to contribute to knowledge by revealing the mental models of individuals by using advanced cognitive research techniques. For instance, the policy capturing technique may be a powerful tool to gain insights about the importance of the external environment on the formation of attitudes and decisions regarding slack resources. For example, scholars could investigate the impact of take-over threats and other environmental conditions, such as, economic crisis, on attitudes and decisions regarding slack resources.

Future studies could also contribute to knowledge by integrating cognitive and econometric modelling perspectives. Having access to slack resources is crucial for managers to reflect their attitudes towards slack resources into their decisions. Thus, scholars could investigate the moderating impact of the level of slack resources on the relationship between managerial attitudes and personnel psychology. In yet another research direction, scholars could employ the ATSRQ to examine the impact of managerial attitudes towards slack resources in the relationship between organizational slack and firm performance.

APPENDICES

Appendix 1: Pool of items

1 Excess personnel facilitate innovation.
2 Excess personnel inhibit innovation.
3 Having excess personnel inhibits innovative practices.
4 To foster innovation, firms should have an excess of personnel.
5 Firms with an excess of personnel are more likely to innovate.
6 Having excess personnel enhances the innovativeness of firms.
7 Excess personnel undermine the innovativeness of firms.
8 To foster innovation, excess personnel should be kept to a minimum.
9 Having excess personnel is essential for pursuing innovative practices.
10 Holding excess personnel is detrimental to innovation.
11 Excess cash reserves facilitate innovation.
12 Excess cash reserves inhibit innovation.
13 Having excess cash reserves inhibits innovative practices.
14 To foster innovation, firms should have excess cash reserves.
15 Firms with an excess of cash reserves are more likely to innovate.
16 Having excess cash reserves enhances the innovativeness of firms.
17 Excess cash reserves undermine the innovativeness of firms.
18 To foster innovation, excess cash reserves should be kept to a minimum.
19 Holding excess cash reserves is essential for pursuing innovative practices.
20 Holding excess cash reserves is detrimental to innovation.
21 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate innovation.
22 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit innovation.
23 Having excess physical resources (e.g., land, equipment, buildings, inventory) inhibits innovative practices.
24 To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).
25 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to innovate.
26 Having excess physical resources (e.g., land, equipment, buildings, inventory) enhances the innovativeness of firms.
27 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine the innovativeness of firms.

28 To foster innovation, excess physical resources (e.g., land, equipment, buildings, inventory) should be kept to a minimum.
29 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is essential for pursuing innovative practices.
30 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is detrimental to innovation.
31 Excess intangible resources (e.g., patents, copyrights, trademarks) facilitate innovation.
32 Excess intangible resources (e.g., patents, copyrights, trademarks) inhibit innovation.
33 Having excess intangible resources (e.g., patents, copyrights, trademarks) inhibits innovative practices.
34 To foster innovation, firms should have excess intangible resources (e.g., patents, copyrights, trademarks).
35 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to innovate.
36 Having excess intangible resources (e.g., patents, copyrights, trademarks) enhances the innovativeness of firms.
37 Excess intangible resources (e.g., patents, copyrights, trademarks) undermine the innovativeness of firms.
38 To foster innovation, excess intangible resources (e.g., patents, copyrights, trademarks) should be kept to a minimum.
39 Excess intangible resources (e.g., patents, copyrights, trademarks) are essential for pursuing innovative practices.
40 Holding excess intangible resources (e.g., patents, copyrights, trademarks) is detrimental to innovation.
41 An excess of personnel stimulates effective problem solving among personnel.
42 Holding excess personnel is a sure way to trigger unhealthy conflict among personnel.
43 Having excess personnel facilitates cooperation among personnel.
44 Having excess personnel inhibits cooperation among personnel.
45 Holding excess personnel minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
46 Holding excess personnel stimulates unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
47 Excess personnel facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).
48 Excess personnel create problems between managers and

shareholders.

49 Excess personnel stimulate effective problem solving between managers and shareholders.

50 An excess of personnel stimulates unhealthy conflict between managers and shareholders.

51 People work harder to hold their jobs, when the firm has an excess of personnel.

52 People are less motivated, when firms have an excess of personnel.

53 Excess cash reserves stimulate effective problem solving among personnel.

54 Holding excess cash reserves is a sure way to trigger unhealthy conflict among personnel.

55 Excess cash reserves facilitate cooperation among personnel.

56 Excess cash reserves inhibit cooperation among personnel.

57 Holding excess cash reserves minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

58 Holding excess cash reserves stimulates unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

59 Excess cash reserves facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

60 Excess cash reserves create problems between managers and shareholders.

61 Excess cash reserves stimulate effective problem solving between managers and shareholders.

62 An excess of cash reserves stimulates unhealthy conflict between managers and shareholders.

63 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.

64 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is a sure way to trigger unhealthy conflict among personnel.

65 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation among personnel.

66 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit cooperation among personnel.

67 Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

68 Holding excess physical resources (e.g., land, equipment, buildings, inventory) stimulates unhealthy conflict with business partners (e.g.,

suppliers, retailers, contractors).

69 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

70 Excess physical resources (e.g., land, equipment, buildings, inventory) create problems between managers and shareholders.

71 Excess physical resources (e.g., land, equipment, buildings, inventory) stimulate effective problem solving between managers and shareholders.

72 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates unhealthy conflict between managers and shareholders.

73 An excess of intangible resources (e.g., patents, copyrights, trademarks) stimulates effective problem solving among personnel.

74 Holding excess intangible resources (e.g., patents, copyrights, trademarks) is a sure way to trigger unhealthy conflict among personnel.

75 Excess intangible resources (e.g., patents, copyrights, trademarks) facilitate cooperation among personnel.

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77 Holding excess intangible resources (e.g., patents, copyrights, trademarks) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

78 Holding excess intangible resources (e.g., patents, copyrights, trademarks) stimulates unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

79 Excess intangible resources (e.g., patents, copyrights, trademarks) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

80 Excess intangible resources (e.g., patents, copyrights, trademarks) create problems between managers and shareholders.

81 Excess intangible resources (e.g., patents, copyrights, trademarks) stimulate effective problem solving between managers and shareholders.

82 An excess of intangible resources (e.g., patents, copyrights, trademarks) stimulates unhealthy conflict between managers and shareholders.

83 Excess personnel are a key driver of the profitable growth of firms.

84 Excess personnel are a key driver of the unprofitable growth of firms.

85 Excess personnel inhibit the profitable growth of firms.
86 Excess personnel undermine firms' attempts to grow profitably.
87 Firms with an excess of personnel are more likely to grow profitably.
88 Firms with an excess of personnel are more likely to grow unprofitably.
89 To foster profitable growth, excess personnel should be kept to a minimum.
90 To foster profitable growth, firms should have excess personnel.
91 Firms with an excess of personnel are more likely to undervalue profitable growth opportunities.
92 Excess personnel are essential for pursuing profitable growth opportunities.
93 Excess cash reserves are a key driver of the profitable growth of firms.
94 Excess cash reserves are a key driver of the unprofitable growth of firms.
95 Excess cash reserves inhibit the profitable growth of firms.
96 Excess cash reserves undermine firms' attempts to grow profitably.
97 Firms with an excess of cash reserves are more likely to grow profitably.
98 Firms with an excess of cash reserves are more likely to grow unprofitably.
99 To foster profitable growth, excess cash reserves should be kept to a minimum.
100 To foster profitable growth, firms should have excess cash reserves.
101 Firms with an excess of cash reserves are more likely to undervalue profitable growth opportunities.
102 Excess cash reserves are essential for pursuing profitable growth opportunities.
103 Excess physical resources (e.g., land, equipment, buildings, inventory) are a key driver of the profitable growth of firms.
104 Excess physical resources (e.g., land, equipment, buildings, inventory) are a key driver of the unprofitable growth of firms.
105 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit firms from pursuing profitable growth opportunities.
106 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine firms' attempts to grow profitably.
107 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to grow profitably.
108 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to grow unprofitably.
109 To foster profitable growth, excess physical resources (e.g., land,

equipment, buildings, inventory) should be kept to a minimum.

110 To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).

111 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to undervalue profitable growth opportunities.

112 Excess physical resources (e.g., land, equipment, buildings, inventory) are essential for pursuing profitable growth opportunities.

113 Excess intangible resources (e.g., patents, copyrights, trademarks) are a key driver of the profitable growth of firms.

114 Excess intangible resources (e.g., patents, copyrights, trademarks) are a key driver of the unprofitable growth of firms.

115 Excess intangible resources (e.g., patents, copyrights, trademarks) inhibit the profitable growth of firms.

116 Excess intangible resources (e.g., patents, copyrights, trademarks) undermine firms' attempts to grow profitably.

117 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to grow profitably.

118 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to grow unprofitably.

119 To foster profitable growth, excess intangible resources (e.g., patents, copyrights, trademarks) should be kept to a minimum.

120 To foster profitable growth, firms should have excess intangible resources (e.g., patents, copyrights, trademarks).

121 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to undervalue profitable growth opportunities.

122 Excess intangible resources (e.g., patents, copyrights, trademarks) are essential for pursuing profitable growth opportunities.

Appendix 2: The 30 attitudes towards slack resources items initially retained at the conclusion of Study 1

Attitudes towards HR slack

HR 1 To foster innovation, firms should have an excess of personnel.

HR 2 To foster profitable growth, firms should have excess personnel.

HR 3 Having excess personnel is essential for pursuing innovative practices.

HR 4 Having excess personnel facilitates cooperation among personnel.

HR 5 Excess personnel are essential for pursuing profitable growth opportunities.

HR 6 An excess of personnel stimulates unhealthy conflict between managers and shareholders.

HR 7 People are less motivated, when firms have an excess of personnel.

HR 8 Excess personnel are a key driver of the unprofitable growth of firms.

HR 9 Excess personnel create problems between managers and shareholders.

HR 10 Firms with an excess of personnel are more likely to grow unprofitably.

Attitudes towards financial Slack

Fin 1 To foster innovation, firms should have excess cash reserves.

Fin 2 To foster profitable growth, firms should have excess cash reserves.

Fin 3 Excess cash reserves are essential for pursuing profitable growth opportunities.

Fin 4 Excess cash reserves are a key driver of the profitable growth of firms.

Fin 5 Firms with an excess of cash reserves are more likely to grow profitably.

Fin 6 Excess cash reserves inhibit the profitable growth of firms.

Fin 7 Firms with an excess of cash reserves are more likely to undervalue profitable growth opportunities.

Fin 8 To foster innovation, excess cash reserves should be kept to a minimum.

Fin 9 Excess cash reserves undermine the innovativeness of firms.

Fin 10 An excess of cash reserves stimulates unhealthy conflict between managers and shareholders.

Attitudes towards physical slack

Phy 1 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

Phy 2 To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).

Phy 3 Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

Phy 4 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.

Phy 5 To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).

Phy 6 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is detrimental to innovation.

Phy 7 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine firms' attempts to grow profitably.

Phy 8 To foster profitable growth, excess physical resources (e.g., land, equipment, buildings, inventory) should be kept to a minimum.

Phy 9 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is a sure way to trigger unhealthy conflict among personnel.

Phy 10 Having excess physical resources (e.g., land, equipment, buildings, inventory) inhibits innovative practices.

Appendix 3: Study 1 revisited (Sample 1)

The aim of revisiting Study 1 is to examine the factor structure of the ATSRQ without negatively worded items. Accordingly, positively worded items were resubmitted to EFA. The protocol that was adopted to conduct the initial Study 1 exploratory factor analysis (EFA) remained the same. Factors were extracted with the principal axis factoring method with direct oblimin rotation. Items loading above 0.40 on a single factor were used to define factors. As reported in Table A.1, the 15 positively worded items each loaded uniquely on one of the three separate factors thus extracted.

Table A.1: EFA results

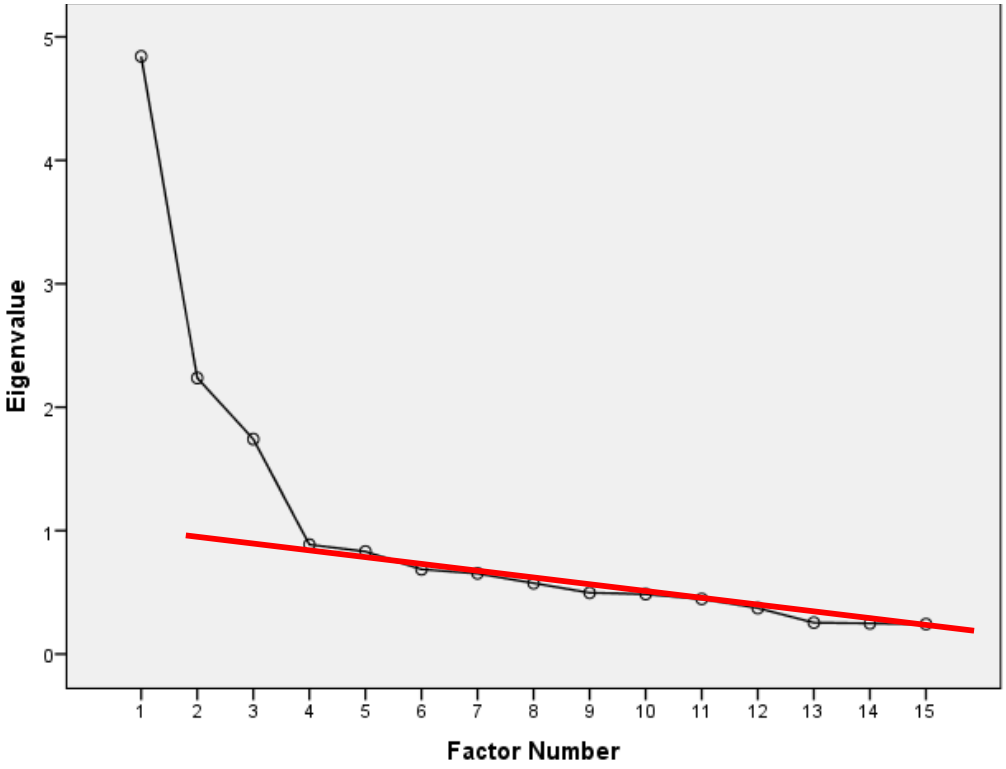
Factors	F1	F2	F3
Factor 1: Attitudes towards Financial slack			
Fin2	**0.67**	0.06	-0.01
Fin1	**0.65**	0.07	0.05
Fin3	**0.62**	-0.05	-0.06
Fin4	**0.59**	-0.07	0.11
Fin5	**0.52**	-0.07	0.01
Factor 2: Attitudes towards Financial slack			
Fin1	0.12	**0.80**	-0.17
Fin2	-0.05	**0.74**	0.11
Fin4	0.08	**0.72**	0.01
Fin5	0.01	**0.70**	0.06
Fin3	-0.10	**0.61**	0.06
Factor 3: Attitudes towards Physical slack			
Phy1	-0.08	0.08	**0.73**
Phy3	0.07	-0.12	**0.57**
Phy2	0.02	-0.16	**0.51**
Phy4	0.35	0.01	**0.51**
Phy5	0.25	-0.13	**0.47**
Eigenvalues	4.83	1.86	1.39
Total variance explained by each factor	34.50	13.28	9.94
Cumulative variance explained by the factors	34.50	47.79	57.72

Notes: N = 193 (Sample 1). Bold is used to highlight the loading between an item and its respective scale/factor. Actual items are listed in Appendix 2.

The Kaiser-Meyer-Olkin measure and Bartlett's test indicated that the dataset was adequate for factor analysis (KMO>0.6; Bartlett test p<0.001). I used

Cattell's scree test (Cattell, 1966) to determine the number of factors to be retained. The scree plot (see Figure A.1) had only one break point which suggested a three-factor solution. The retained three factors represented the same constructs that were identified and tested in Study 1 and Study 2. They explained 58% of the total variance.

Figure A.1: Scree plot



Internal consistency reliability of the resulting scales was evaluated with Cronbach's alpha statistic which is sensitive to the number of items in the scale (Cortina, 1993). While reliability increases with the number of items, longer instruments are practically difficult to administer. One of the main targets of this instrument is managers in organizations. Considering the fact that time is an extremely scarce resource for managers, the final instrument should be as brief as possible, while meeting acceptable standards of psychometric efficacy. Removing negatively worded items from the scales reduced the number of items from 30 to 15, without diminishing the scale reliabilities (internal consistencies) below acceptable levels (Cronbach's Alphas ranged from 0.75 to 0.87).

I also examined whether the first-order factors reported in Table A.1 led to a higher order construct by submitting sum-scores of first-order factors to exploratory factor analysis. This analysis yielded a one-factor solution (total variance explained=62%, eigenvalue=1.87), indicating a higher-order factor which will be tested with confirmatory factor analysis (CFA) in Study 2.

Appendix 4: Study 1 data collection instrument

Note: Scale titles are presented for explanatory purposes. Actual data collection material did not include any scale title.

a. Consent Form

This survey is designed to gather data about people's attitudes, beliefs and perceptions in the workplace and in general life. It will take approximately 45 minutes to complete the survey. All data collected will be held securely and all results will be presented in an aggregated and anonymized form.

Participation is voluntary and you are free to withdraw anytime without giving a reason. At the end of the survey you will have the option to submit your contact information to receive either £3 Amazon voucher, or £3 Eating at Warwick credit. In addition, you will be entered into a prize draw to win **£100**.

☐ I have read and understood the above consent form and voluntarily agree to participate in this survey.

b. Excess Resources Survey

Excess resources refer to all types of resource (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

The following statements reflect differing opinions regarding excess resources in firms. Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the sentiment expressed, by ticking the box corresponding to your views.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

1 Having excess cash reserves enhances the innovativeness of firms.
2 To foster innovation, excess intangible resources (e.g., patents, copyrights, trademarks) should be kept to a minimum.

3 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to undervalue profitable growth opportunities.
4 Excess cash reserves facilitate cooperation among personnel.
5 Excess personnel undermine the innovativeness of firms.
6 Having excess personnel inhibits innovative practices.
7 Excess cash reserves facilitate innovation.
8 Excess cash reserves stimulate effective problem solving among personnel.
9 Excess intangible resources (e.g., patents, copyrights, trademarks) stimulate effective problem solving between managers and shareholders.
10 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit firms from pursuing profitable growth opportunities.
11 Excess intangible resources (e.g., patents, copyrights, trademarks) are essential for pursuing innovative practices.
12 Holding excess intangible resources (e.g., patents, copyrights, trademarks) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
13 Excess cash reserves create problems between managers and shareholders.
14 Excess personnel are essential for pursuing profitable growth opportunities.
15 Excess intangible resources (e.g., patents, copyrights, trademarks) create problems between managers and shareholders.
16 Excess personnel create problems between managers and shareholders.
17 Having excess personnel inhibits cooperation among personnel.
18 Excess personnel are a key driver of the profitable growth of firms.
19 Excess cash reserves undermine firms' attempts to grow profitably.
20 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to grow unprofitably.
21 To foster profitable growth, firms should have excess cash reserves.
22 Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
23 Holding excess personnel minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
24 An excess of physical resources (e.g., land, equipment, buildings,

inventory) stimulates unhealthy conflict between managers and shareholders.

25 An excess of cash reserves stimulates unhealthy conflict between managers and shareholders.

26 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to undervalue profitable growth opportunities.

27 Having excess physical resources (e.g., land, equipment, buildings, inventory) enhances the innovativeness of firms.

28 Excess cash reserves inhibit cooperation among personnel.

29 People are less motivated, when firms have an excess of personnel.

30 To foster innovation, firms should have excess cash reserves.

31 To foster innovation, excess physical resources (e.g., land, equipment, buildings, inventory) should be kept to a minimum.

32 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.

33 Holding excess personnel is a sure way to trigger unhealthy conflict among personnel.

34 Having excess personnel enhances the innovativeness of firms.

35 Excess cash reserves inhibit the profitable growth of firms.

36 Firms with an excess of cash reserves are more likely to undervalue profitable growth opportunities.

37 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to grow unprofitably.

38 Excess intangible resources (e.g., patents, copyrights, trademarks) inhibit the profitable growth of firms.

39 Holding excess intangible resources (e.g., patents, copyrights, trademarks) is a sure way to trigger unhealthy conflict among personnel.

40 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation among personnel.

41 Excess physical resources (e.g., land, equipment, buildings, inventory) create problems between managers and shareholders.

42 To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).

43 Excess intangible resources (e.g., patents, copyrights, trademarks) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

44 To foster profitable growth, excess intangible resources (e.g., patents,

copyrights, trademarks) should be kept to a minimum.

45 To foster innovation, firms should have an excess of personnel.

46 Having excess intangible resources (e.g., patents, copyrights, trademarks) inhibits innovative practices.

47 Excess personnel facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

48 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate innovation.

49 To foster innovation, firms should have excess intangible resources (e.g., patents, copyrights, trademarks).

50 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).

51 Firms with an excess of cash reserves are more likely to innovate.

52 Holding excess personnel stimulates unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

53 Excess cash reserves are a key driver of the unprofitable growth of firms.

54 Firms with an excess of personnel are more likely to undervalue profitable growth opportunities.

55 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine the innovativeness of firms.

56 Holding excess personnel is detrimental to innovation.

57 To foster profitable growth, excess cash reserves should be kept to a minimum.

58 Firms with an excess of physical resources (e.g., land, equipment, buildings, inventory) are more likely to innovate.

59 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is a sure way to trigger unhealthy conflict among personnel.

60 To foster innovation, excess personnel should be kept to a minimum.

61 Excess personnel stimulate effective problem solving between managers and shareholders.

62 To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).

63 Excess physical resources (e.g., land, equipment, buildings, inventory) are a key driver of the profitable growth of firms.

64 Excess intangible resources (e.g., patents, copyrights, trademarks) are a key driver of the unprofitable growth of firms.

65 Excess personnel inhibit the profitable growth of firms.

66 To foster profitable growth, excess physical resources (e.g., land, equipment, buildings, inventory) should be kept to a minimum.
67 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit cooperation among personnel.
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73 Excess intangible resources (e.g., patents, copyrights, trademarks) facilitate innovation.
74 Excess personnel facilitate innovation.
75 An excess of intangible resources (e.g., patents, copyrights, trademarks) stimulates unhealthy conflict between managers and shareholders.
76 Excess cash reserves stimulate effective problem solving between managers and shareholders.
77 To foster profitable growth, excess personnel should be kept to a minimum.
78 People work harder to hold their jobs, when the firm has an excess of personnel.
79 Firms with an excess of personnel are more likely to grow profitably.
80 Excess physical resources (e.g., land, equipment, buildings, inventory) inhibit innovation.
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84 Excess intangible resources (e.g., patents, copyrights, trademarks) are essential for pursuing profitable growth opportunities.
85 Holding excess cash reserves is detrimental to innovation.
86 Excess cash reserves undermine the innovativeness of firms.
87 Having excess intangible resources (e.g., patents, copyrights,

trademarks) enhances the innovativeness of firms.

88 To foster innovation, excess cash reserves should be kept to a minimum.

89 Excess intangible resources (e.g., patents, copyrights, trademarks) inhibit cooperation among personnel.

90 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is detrimental to innovation.

91 An excess of personnel stimulates effective problem solving among personnel.

92 Holding excess cash reserves is a sure way to trigger unhealthy conflict among personnel.

93 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine firms' attempts to grow profitably.

94 Firms with an excess of cash reserves are more likely to grow profitably.

95 An excess of personnel stimulates unhealthy conflict between managers and shareholders.

96 Firms with an excess of cash reserves are more likely to grow unprofitably.

97 Excess intangible resources (e.g., patents, copyrights, trademarks) undermine the innovativeness of firms.

98 To foster profitable growth, firms should have excess intangible resources (e.g., patents, copyrights, trademarks).

99 Firms with an excess of personnel are more likely to innovate.

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104 Holding excess intangible resources (e.g., patents, copyrights, trademarks) is detrimental to innovation.

105 To foster profitable growth, firms should have excess personnel.

106 Excess intangible resources (e.g., patents, copyrights, trademarks) are a key driver of the profitable growth of firms.

107 Firms with an excess of physical resources (e.g., land, equipment,

buildings, inventory) are more likely to grow profitably.

108 Having excess cash reserves inhibits innovative practices.

109 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is essential for pursuing innovative practices.

110 Holding excess cash reserves stimulates unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).

111 Excess personnel are a key driver of the unprofitable growth of firms.

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114 Having excess physical resources (e.g., land, equipment, buildings, inventory) inhibits innovative practices.

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116 Excess intangible resources (e.g., patents, copyrights, trademarks) undermine firms' attempts to grow profitably.

117 Having excess personnel facilitates cooperation among personnel.

118 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to innovate.

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120 Firms with an excess of intangible resources (e.g., patents, copyrights, trademarks) are more likely to grow profitably.

121 Holding excess cash reserves is essential for pursuing innovative practices.

122 Excess personnel undermine firms' attempts to grow profitably.

c. Crowne-Marlowe Social Desirability Scale

Items were presented with True/False binary response options.

Instructions

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

Items

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.

5. On occasion I have had doubts about my ability to succeed in life.

6. I sometimes feel resentful when I don't get my way.

7. I am always careful about my manner of dress.

8. My table manners at home are as good as when I eat out in a restaurant.

9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

10. On a few occasions, I have given up doing something because I thought too little of my ability.

11. I like to gossip at times.

12. There have been times when I felt like rebelling against people in authority even though I knew they were right.

13. No matter who I'm talking to, I'm always a good listener.

14. I can remember "playing sick" to get out of something.

15. There have been occasions when I took advantage of someone.

16. I'm always willing to admit it when I make a mistake.

17. I always try to practice what I preach.

18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

19. I sometimes try to get even rather than forgive and forget.

20. When I don't know something I don't at all mind admitting it.

21. I am always courteous, even to people who are disagreeable.

22. At times I have really insisted on having things my own way.

23. There have been occasions when I felt like smashing things.

24. I would never think of letting someone else be punished for my wrong-doings.

25. I never resent being asked to return a favor.

26. I have never been irked when people expressed ideas very different from my own.

27. I never make a long trip without checking the safety of my car.

28. There have been times when I was quite jealous of the good fortune of others.

29. I have almost never felt the urge to tell someone off.

30. I am sometimes irritated by people who ask favors of me.

31. I have never felt that I was punished without cause.

32. I sometimes think when people have a misfortune they only got what they deserved.

33. I have never deliberately said something that hurt someone's feelings.

d. Biographical questions

1. What is your date of birth? (Please enter in dd/mm/yyyy format)

2. Gender (Please tick the box that applies)

3. What is your nationality?

3.a. Please indicate your nationality below.*

4. How many years of work experience (e.g. full time, part time, and voluntary work) do you have over the entire course of your life in total?

….. years …… months

5. Please tick the highest level of qualification you have obtained. (If you are currently studying, please indicate the level of your current course.)

	No formal qualifications
	GCSEs or equivalent
	A-levels or equivalent
	Professional qualification
	Bachelor's degree
	Master's degree
	Doctorate

6. What is your level of English proficiency?

	Elementary proficiency
	Limited working proficiency
	Professional working proficiency
	Full professional proficiency
	Native or bilingual

***If Other is selected in Question 3.**

Appendix 5: Study 2 data collection instrument

Note: Scale titles are presented for explanatory purposes. Actual data collection material did not include any scale title.

a. Consent Form

This survey is designed to gather data about people's attitudes, beliefs and perceptions in the workplace and in general life. It will take approximately 10 minutes to complete the survey. All data collected will be held securely and all results will be presented in an **aggregated** and **anonymized** form. Participation is voluntary and you are free to withdraw anytime without giving a reason.

☐ I have read and understood the above consent form and voluntarily agree to participate in this survey.

b. the ATSRQ

Questionnaire instructions

Excess resources refer to all types of resource (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

The following statements reflect differing opinions regarding excess resources in firms. Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the sentiment expressed, by ticking the box corresponding to your views.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

Questionnaire items

1 Excess cash reserves inhibit the profitable growth of firms.
2 To foster innovation, excess cash reserves should be kept to a minimum.
3 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is a sure way to trigger unhealthy conflict among personnel.
4 To foster profitable growth, firms should have excess personnel.

5 An excess of personnel stimulates unhealthy conflict between managers and shareholders.
6 To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).
7 To foster profitable growth, firms should have excess cash reserves.
8 Having excess personnel facilitates cooperation among personnel.
9 To foster innovation, firms should have excess cash reserves.
10 To foster profitable growth, excess physical resources (e.g., land, equipment, buildings, inventory) should be kept to a minimum.
11 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.
12 Excess cash reserves undermine the innovativeness of firms.
13 An excess of cash reserves stimulates unhealthy conflict between managers and shareholders.
14 Firms with an excess of cash reserves are more likely to grow profitably.
15 Excess personnel create problems between managers and shareholders.
16 Having excess physical resources (e.g., land, equipment, buildings, inventory) inhibits innovative practices.
17 Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
18 Firms with an excess of personnel are more likely to grow unprofitably.
19 Having excess personnel is essential for pursuing innovative practices.
20 People are less motivated, when firms have an excess of personnel.
21 To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).
22 Excess cash reserves are a key driver of the profitable growth of firms.
23 Excess personnel are a key driver of the unprofitable growth of firms.
24 To foster innovation, firms should have an excess of personnel.
25 Firms with an excess of cash reserves are more likely to undervalue profitable growth opportunities.
26 Holding excess physical resources (e.g., land, equipment, buildings, inventory) is detrimental to innovation.
27 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).
28 Excess personnel are essential for pursuing profitable growth opportunities.
29 Excess cash reserves are essential for pursuing profitable growth

opportunities.

30 Excess physical resources (e.g., land, equipment, buildings, inventory) undermine firms' attempts to grow profitably.

c. Crowne-Marlowe Social Desirability Scale

Items were presented with True/False binary response options.

Instructions

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

Items

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.

20. When I don't know something I don't at all mind admitting it.

21. I am always courteous, even to people who are disagreeable.

22. At times I have really insisted on having things my own way.

23. There have been occasions when I felt like smashing things.

24. I would never think of letting someone else be punished for my wrong-doings.

25. I never resent being asked to return a favor.

26. I have never been irked when people expressed ideas very different from my own.

27. I never make a long trip without checking the safety of my car.

28. There have been times when I was quite jealous of the good fortune of others.

29. I have almost never felt the urge to tell someone off.

30. I am sometimes irritated by people who ask favors of me.

31. I have never felt that I was punished without cause.

32. I sometimes think when people have a misfortune they only got what they deserved.

33. I have never deliberately said something that hurt someone's feelings.

d. Biographical questions

1. What is your date of birth? (Please enter in dd/mm/yyyy format)

2. Gender (Please tick the box that applies)

3. What is your nationality?

3.a. Please indicate your nationality below.*

4. How many years of work experience (e.g. full time, part time, and voluntary work) do you have over the entire course of your life in total?

….. years …… months

5. Which of the following best describes the department you currently work in?

- [ ] Finance
- [ ] Human Resources
- [ ] Production
- [ ] Research and Development
- [ ] Sales/Marketing
- [ ] General Management

7. Please tick the highest level of qualification you have obtained. (If you are currently studying, please indicate the level of your current course.)

- [ ] No formal qualifications
- [ ] GCSEs or equivalent
- [ ] A-levels or equivalent
- [ ] Professional qualification
- [ ] Bachelor's degree
- [ ] Master's degree
- [ ] Doctorate

8. What is your level of English proficiency?

- [ ] Elementary proficiency
- [ ] Limited working proficiency
- [ ] Professional working proficiency
- [ ] Full professional proficiency
- [ ] Native or bilingual

***If Other is selected in Question 3.**

Appendix 6: Study 3 data collection instrument

Note: Biographical questions were presented in the second wave of data collection only.

Excess Resources Questionnaire

Many organizations hold excess resources that take different forms, ranging from cash reserves to office space. For example, some universities have an excess of buildings and equipment. Many private sector organizations appear to have resources well an excess of their operating requirements. Similarly, government organizations like the NHS and HM Revenue & Customs appear to hold reserves of cash and enjoy an excess of personnel. Operating theatres in many of our hospitals appear to be underutilized and despite acute shortage of beds, many hospital wards lie empty.

What would you do with excess resources if you were in charge?

Researchers from Warwick Business School are interested in your opinions to develop a questionnaire-based instrument to assess attitudes, beliefs and perceptions regarding excess resources in organizations.

It will take approximately 10 minutes to complete the study. All data collected will be held securely and all results will be presented in an **aggregated** and **anonymized** form. Participation is voluntary and you are free to withdraw anytime without giving a reason.

☐ By ticking the box on the left, I confirm that I have read and understood the above consent form and voluntarily agree to participate in this study.

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Questionnaire Instructions

Excess resources refer to all types of resource (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

The following statements reflect differing opinions regarding excess resources in firms. Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the sentiment expressed, by circling the number corresponding to your views.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

Please ensure that you answer **all** the questions.

Questionnaire Items

	Items	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	To foster profitable growth, firms should have excess personnel.	1	2	3	4	5
2	Excess cash reserves are essential for pursuing profitable growth opportunities.	1	2	3	4	5
3	Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).	1	2	3	4	5
4	To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).	1	2	3	4	5
5	Excess cash reserves are a key driver of the profitable growth of firms.	1	2	3	4	5

	Items	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
6	To foster innovation, firms should have an excess of personnel.	1	2	3	4	5
7	To foster profitable growth, firms should have excess cash reserves.	1	2	3	4	5
8	Having excess personnel facilitates cooperation among personnel.	1	2	3	4	5
9	To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).	1	2	3	4	5
10	An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.	1	2	3	4	5
11	Having excess personnel is essential for pursuing innovative practices.	1	2	3	4	5
12	To foster innovation, firms should have excess cash reserves.	1	2	3	4	5
13	Excess personnel are essential for pursuing profitable growth opportunities.	1	2	3	4	5
14	Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).	1	2	3	4	5
15	Firms with an excess of cash reserves are more likely to grow profitably.	1	2	3	4	5

Biographical Questions

1. What is your age?

…… years

2. What is your gender? (Please circle the one that applies)

Male / Female

3. What is your nationality?

……..

4. What is your level of English proficiency?

- ☐ Elementary Proficiency
- ☐ Limited working proficiency
- ☐ Professional working proficiency
- ☐ Full professional proficiency
- ☐ Native or bilingual proficiency

5. How many years of work experience do you have over the entire course of your life in total? (Please include full-time, part-time, and voluntary work experience).

…… years …….. months

6. For approximately how long have you been working in your current organization?

…….. years …….. months

7. For approximately how long have you been working in your current position?

…….. years …….. months

Please continue to the next page

8. Please select the highest level of qualification you have obtained. If you are currently studying at university, please indicate the level of your current course.

☐	No formal qualifications
☐	GCSEs or equivalent
☐	A-levels or equivalent
☐	Professional qualification
☐	Bachelor's degree
☐	Master's degree
☐	Doctorate

Thank you for taking the time to participate in this important study. I hope you found it interesting and thought provoking. Please ensure that you have not left any pages or individual answers blank. If you have any questions or require further information, please contact me at M.S.Cakir@warwick.ac.uk.

Appendix 7: Study 4 data collection instrument

Note: Scale titles are presented for explanatory purposes. Actual data collection material did not include any scale title.

a. Consent Form

This survey is designed to gather data about people's attitudes, beliefs and perceptions in the workplace and in general life. It will take approximately 15 minutes to complete the survey. All data collected will be held securely and all results will be presented in an **aggregated** and **anonymized** form. Participation is voluntary and you are free to withdraw anytime without giving a reason.

☐ I have read and understood the above consent form and voluntarily agree to participate in this survey.

b. the ATSRQ

Excess resources refer to all types of resource (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

The following statements reflect differing opinions regarding excess resources in firms. Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the sentiment expressed, by ticking the box corresponding to your views.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

1 To foster profitable growth, firms should have excess personnel.
2 Excess cash reserves are essential for pursuing profitable growth opportunities.
3 Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).
4 To foster innovation, firms should have excess physical resources (e.g.,

land, equipment, buildings, inventory).

5 Excess cash reserves are a key driver of the profitable growth of firms.
6 To foster innovation, firms should have an excess of personnel.
7 To foster profitable growth, firms should have excess cash reserves.
8 Having excess personnel facilitates cooperation among personnel.
9 To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).
10 An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.
11 Having excess personnel is essential for pursuing innovative practices.
12 To foster innovation, firms should have excess cash reserves.
13 Excess personnel are essential for pursuing profitable growth opportunities.
14 Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).
15 Firms with an excess of cash reserves are more likely to grow profitably.

c. Manager's trust in subordinates

Response options for each item ranged from 1 (totally disagree) to 7 (totally agree).

Instructions

Think about your subordinates in the organization you work. For each statement, please tick the box that best describes how much you agree or disagree with each statement.

Items

1. My subordinates will always act responsibly to solve problems occurring in their job.
2. My subordinates would always take responsibility if I were not able to attend to a situation.
3. If I were absent for a period of time, I would not hesitate to leave the responsibility to some of my subordinates.
4. I often entrust tasks to my subordinates without involving myself.

d. the FFMQ

Response options for each item ranged from 1 (not like me at all at work) to 5 (very like me at work).

Instructions

This assessment is made up of a list of words that describe various ways people behave. All that you have to do is decide how well each word describes you and the way that you usually behave when you are at work.

All you have to do is click the appropriate box using the rating scales that appear alongside each word.

Do not spend too much time thinking about each word because your first impression is usually best. There are no right or wrong answers, it's your opinion that matters. Please make sure that you respond to every word.

Items

1	unhelpful	21	exact	41	unique	61	pessimistic
2	generous	22	erratic	42	imaginative	62	wary
3	kind	23	sloppy	43	unconventional	63	cautious
4	warm	24	accurate	44	average	64	optimistic
5	inflexible	25	systematic	45	orthodox	65	stressed
6	unemotional	26	untidy	46	curious	66	irritable
7	supportive	27	precise	47	traditional	67	jealous
8	nice	28	painstaking	48	normal	68	critical
9	co-operative	29	disorganised	49	talkative	69	relaxed
10	thoughtful	30	conscientious	50	shy	70	picky
11	caring	31	careless	51	brave	71	grumpy
12	tolerant	32	clumsy	52	meek	72	anxious
13	gentle	33	creative	53	outgoing	73	sarcastic
14	sensitive	34	conforming	54	assertive	74	moody
15	companionable	35	innovative	55	boastful	75	impatient
16	welcoming	36	original	56	introverted	76	thick-skinned
17	tidy	37	conventional	57	bold	77	tough-minded
18	punctual	38	artistic	58	happy	78	aggressive
19	decisive	39	ordinary	59	daring	79	pushy
20	unsystematic	40	expressive	60	quiet	80	dominant

e. Negative affect

Response options for each item ranged from 1 (very slightly or not at all) to 5 (extremely).

Instructions

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past few weeks.

Items

1	distressed	2	upset	3	guilty	4	scared	5	hostile
6	irritable	7	ashamed	8	nervous	9	jittery	10	afraid

f. Instructional manipulation checks

Most modern theories of decision making recognize the fact that decisions do not take place in a vacuum. Individual preferences and knowledge, along with situational variables can greatly impact the decision process. In order to facilitate our research on decision making we are interested in knowing certain factors about you, the decision maker. Specifically, we are interested in whether you actually take the time to read the directions; if not, then some of our manipulations that rely on changes in the instructions will be ineffective. So, in order to demonstrate that you have read the instructions, please ignore the sport items below. Instead, simply click only the other option and proceed to the next page. Thank you very much.

Skiing	Hockey	Basketball
Rugby	Football	Cycling
Snowboarding	Swimming	Other
Running	Tennis	

g. Biographical questions

1. What is your date of birth? (Please enter in dd/mm/yyyy format)

2. Gender (Please tick the box that applies)

Male / Female

3. What is your nationality?

3.a. Please indicate your nationality below.*

4. How many years of work experience (e.g. full time, part time, and voluntary work) do you have over the entire course of your life in total?

….. years …… months

5. Which of the following best describes the department you currently work in?

☐	Finance
☐	Human Resources
☐	Production
☐	Research and Development
☐	Sales/Marketing
☐	General Management

6. What is your current position in the organization?

☐	Senior manager
☐	Manager
☐	Non-managerial role

7. How long have you been working in your current position?

……. years …….. months

8. How many subordinates do you manage/supervise in your current job?

……

9. Please tick the highest level of qualification you have obtained. (If you are currently studying, please indicate the level of your current course.)

☐	No formal qualifications
☐	GCSEs or equivalent
☐	A-levels or equivalent
☐	Professional qualification
☐	Bachelor's degree
☐	Master's degree
☐	Doctorate

10. What is your level of English proficiency?

☐	Elementary proficiency
☐	Limited working proficiency
☐	Professional working proficiency
☐	Full professional proficiency
☐	Native or bilingual

***If Other is selected in Question 3.**

Appendix 8: Study 5 data collection instruments

Appendix 8.a: Store manager data collection instrument

Excess Resources Questionnaire

Many organizations hold excess resources that take different forms, ranging from cash reserves to office space. For example, some universities have an excess of buildings and equipment. Many private sector organizations appear to have resources well an excess of their operating requirements. Similarly, government organizations like the NHS and HM Revenue & Customs appear to hold reserves of cash and enjoy an excess of personnel. Operating theatres in many of our hospitals appear to be underutilized and despite acute shortage of beds, many hospital wards lie empty.

What would you do with excess resources if you were in charge?

Researchers from Warwick Business School are interested in your opinions to develop a questionnaire-based instrument to assess attitudes, beliefs and perceptions regarding excess resources in organizations.

It will take approximately 10 minutes to complete the study. All data collected will be held securely and all results will be presented in an **aggregated** and **anonymized** form. Participation is voluntary and you are free to withdraw anytime without giving a reason.

☐ By ticking the box on the left, I confirm that I have read and understood the above consent form and voluntarily agree to participate in this study.

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Questionnaire Instructions

Excess resources refer to all types of resource (e.g., cash reserves, machinery, office space, personnel, land) that firms possess over and above what they require to continue their normal day-to-day business activities.

The following statements reflect differing opinions regarding excess resources in firms. Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the sentiment expressed, by circling the number corresponding to your views.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

Please ensure that you answer **all** the questions.

Questionnaire Items

	Items	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	To foster profitable growth, firms should have excess personnel.	1	2	3	4	5
2	Excess cash reserves are essential for pursuing profitable growth opportunities.	1	2	3	4	5
3	Excess physical resources (e.g., land, equipment, buildings, inventory) facilitate cooperation with business partners (e.g., suppliers, retailers, contractors).	1	2	3	4	5
4	To foster innovation, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).	1	2	3	4	5
5	Excess cash reserves are a key driver of the profitable growth of firms.	1	2	3	4	5

Please continue to the next page

	Items	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
6	To foster innovation, firms should have an excess of personnel.	1	2	3	4	5
7	To foster profitable growth, firms should have excess cash reserves.	1	2	3	4	5
8	Having excess personnel facilitates cooperation among personnel.	1	2	3	4	5
9	To foster profitable growth, firms should have excess physical resources (e.g., land, equipment, buildings, inventory).	1	2	3	4	5
10	An excess of physical resources (e.g., land, equipment, buildings, inventory) stimulates effective problem solving among personnel.	1	2	3	4	5
11	Having excess personnel is essential for pursuing innovative practices.	1	2	3	4	5
12	To foster innovation, firms should have excess cash reserves.	1	2	3	4	5
13	Excess personnel are essential for pursuing profitable growth opportunities.	1	2	3	4	5
14	Holding excess physical resources (e.g., land, equipment, buildings, inventory) minimizes unhealthy conflict with business partners (e.g., suppliers, retailers, contractors).	1	2	3	4	5
15	Firms with an excess of cash reserves are more likely to grow profitably.	1	2	3	4	5

Please continue to the next page

Biographical Questions

1. What is your date of birth? (Please report in dd/mm/yyyy format)

……

2. Gender (Please circle the one that applies)

Male / Female

3. What is your nationality?

……

4. What is your level of English proficiency?

- ☐ Elementary Proficiency
- ☐ Limited working proficiency
- ☐ Professional working proficiency
- ☐ Full professional proficiency
- ☐ Native or bilingual proficiency

5. How many years of work experience (e.g. full time, part time, and voluntary work) do you have over the entire course of your life in total?

…… years …….. months

6. How long have you been working in your current organization (i.e. ▬)?

…….. years …….. months

7. What is your current position in the organization (i.e. ▬)?

- ☐ Senior manager
- ☐ Manager
- ☐ Non-managerial role

Please continue to the next page

8. How long have you been working in your current position?

……. years …….. months

9. Please select the highest level of qualification you have obtained. If you are currently studying at university, please indicate the level of your current course.

- ☐ No formal qualifications
- ☐ GCSE's or equivalent
- ☐ A-levels or equivalent
- ☐ Professional qualification
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate

10. Which of the following best describes the department you currently work in?

- ☐ Finance
- ☐ Human Resources
- ☐ Production
- ☐ Research and Development
- ☐ Sales/Marketing
- ☐ General Management

Thank you for taking the time to participate in this important study. I hope you found it interesting and thought provoking. Please ensure that you have not left any pages or individual answers blank. If you have any questions or require further information, please contact me at M.S.Cakir@warwick.ac.uk.

Appendix 8.b: Subordinate data collection instrument

Note: The array of scales used in the instrument is as follows; Part 1=Decision latitude, Part 2 =Access to resources, Part 3=Work autonomy, Part 4=Perceived organizational support, Part 5=Leader-member exchange

A Study by Warwick Business School

This survey is designed to gather data about people's attitudes, beliefs and perceptions in the workplace and in general life.

It will take approximately 15 minutes to complete the survey. All data collected will be held securely and all results will be presented in an **aggregated** and **anonymized** form. Participation is voluntary and you are free to withdraw anytime without giving a reason.

Please keep in mind that there are no "right" or "wrong" answers and record your immediate reactions rather than pondering at length over particular statements.

Please ensure that you answer **all** the questions.

☐ By ticking the box on the left, I confirm that I have read and understood the above consent form and voluntarily agree to participate in this study.

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PART 1

Please read each statement and circle the appropriate number which you feel best describes your job.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	My job allows me to make a lot of decisions on my own.	1	2	3	4
2	On my job, I have very little freedom to decide how I do my work.	1	2	3	4
3	I have a lot of say about what happens on my job.	1	2	3	4
4	My job requires that I learn new things.	1	2	3	4
5	My job involves a lot of repetitive work.	1	2	3	4
6	My job requires me to be creative.	1	2	3	4
7	My job requires a high level of skill.	1	2	3	4
8	I get to do a variety of different things on my job.	1	2	3	4
9	I have opportunity to develop my own special abilities.	1	2	3	4

Please continue to the next page

PART 2

Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the following statements, by circling the number corresponding to your views.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1 I have access to the resources I need to do my job well.	1	2	3	4	5	6	7
2 When I need additional resources to do my job, I can usually get them.	1	2	3	4	5	6	7
3 I can obtain the resources necessary to support new ideas.	1	2	3	4	5	6	7

PART 3

Using the rating scales that appear alongside each statement, please indicate the extent to which you agree or disagree with the following statements, by circling the number corresponding to your views.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1 I have limited flexibility in how I do my work.	1	2	3	4	5	6
2 I have the freedom to decide how to do my work assignments.	1	2	3	4	5	6
3 I have a lot of flexibility in how I complete my work.	1	2	3	4	5	6

Please continue to the next page

PART 4

Listed below are statements that represent possible opinions that YOU may have about working at ▬▬
Please indicate the degree of your agreement or disagreement with each statement by circling the number alongside each statement that best represents your point of view.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1 My organization cares about my opinions.	1	2	3	4	5	6	7
2 My organization really cares about my well-being.	1	2	3	4	5	6	7
3 My organization strongly considers my goals and values.	1	2	3	4	5	6	7
4 Help is available from my organization when I have a problem.	1	2	3	4	5	6	7
5 My organization would forgive an honest mistake on my part.	1	2	3	4	5	6	7
6 If given the opportunity, my organization would take advantage of me.	1	2	3	4	5	6	7
7 My organization shows little concern for me.	1	2	3	4	5	6	7
8 My organization is willing to help me if I need a special favour.	1	2	3	4	5	6	7

Please continue to the next page

PART 5

This questionnaire contains items that ask you to describe your relationship with your leader. For each of the items, indicate the degree to which you think the item is true for you by circling one of the responses that appear below the item.

1. Do you know where you stand with your leader… do you usually know how satisfied your leader is with what you do?

Rarely	*Occasionally*	*Sometimes*	*Fairly often*	*Very Often*
1	2	3	4	5

2. How well does your leader understand your job problems and needs?

Not a Bit	*A Little*	*A Fair Amount*	*Quite a Bit*	*A Great Deal*
1	2	3	4	5

3. How well does your leader recognize your potential?

Not at All	*A Little*	*Moderately*	*Mostly*	*Fully*
1	2	3	4	5

4. Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?

None	*Small*	*Moderate*	*High*	*Very High*
1	2	3	4	5

5. Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would "bail you out," at his/her expense?

None	*Small*	*Moderate*	*High*	*Very High*
1	2	3	4	5

6. I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?

Strongly Disagree	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	2	3	4	5

7. How would you characterize your working relationship with your leader?

Extremely Ineffective	*Worse Than Average*	*Average*	*Better Than Average*	*Extremely Effective*
1	2	3	4	5

Please continue to the next page

PART 6

1. What is your age?

…… years

2. What is your gender? (Please circle the one that applies)

Male / Female

3. What is your nationality?

……..

4. What is your level of English proficiency?

- ☐ Elementary Proficiency
- ☐ Limited working proficiency
- ☐ Professional working proficiency
- ☐ Full professional proficiency
- ☐ Native or bilingual proficiency

5. How many years of work experience do you have over the entire course of your life in total? (Please include full-time, part-time, and voluntary work experience).

…… years …… months

6. For approximately how long have you been working in your current organization?

…… years …… months

Please continue to the next page

7. Please indicate the highest level of qualification you have obtained. If you are currently studying at university, please indicate the level of your current course.

- [ ] No formal qualifications
- [ ] GCSE's or equivalent
- [ ] A-levels or equivalent
- [ ] Professional qualification
- [ ] Bachelor's degree
- [ ] Master's degree
- [ ] Doctorate

Thank you for taking the time to participate in this important study. Please ensure that you have not left any pages or individual answers blank. If you have any questions or require further information, please contact Selim Cakir at M.S.Cakir@warwick.ac.uk.

REFERENCES

Aaker, D.A. and Mascarenhas, B. (1984). The need for strategic flexibility. *Journal of Business Strategy* **5**(2), pp. 74-82.

Abdul, M.Z. and Ibrahim, S. (2002). Executive and management attitudes towards corporate social responsibility in Malaysia. *Corporate Governance: The International Journal of Effective Board Performance* **2**(4), pp. 10-16.

Acemoglu, D. (1997). Matching, heterogeneity, and the evolution of income distribution. *Journal of Economic Growth* **2**(1), pp. 61-92.

Acemoglu, D. and Pischke, J.S. (1999). Beyond Becker: Training in imperfect labour markets. *Economic Journal* **109**(453), pp. 112-142.

Aguinis, H., Gottfredson, R.K. and Culpepper, S.A. (2013). Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management* **39**(6), pp. 1490-1528.

Ahlstrom, D. (2010). Innovation and growth: How business contributes to society. *Academy of Management Perspectives* **24**(3), pp. 11-24.

Aiken, L.R. (2002). *Attitudes and related psychosocial constructs: Theories, assessment, and research*. Thousand Oaks, California: Sage.

Aiken, L.R. (1996). *Rating scales and checklists: Evaluating behavior, personality, and attitudes*. Michigan: John Wiley & Sons.

Alessandri, T.M. and Pattit, J.M. (2014). Drivers of R&D investment: The interaction of behavioral theory and managerial incentives. *Journal of Business Research* **67**(2), pp. 151-158.

Alvarez-Gil, M.J., Berrone, P., Husillos, F.J. and Lado, N. (2007). Reverse logistics, stakeholders' influence, organizational slack, and managers' posture. *Journal of Business Research* **60**(5), pp. 463-473.

Amabile, T.M., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal* **39**(5), pp. 1154-1184.

Anderson, J.C. and Gerbing, D.W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* **103**(3), pp. 411-423.

Ang, S. and Straub, D.W. (1998). Production and transaction economies and IS outsourcing: A study of the US banking industry. *MIS quarterly* **22**(4), pp. 535-552.

Antle, R. and Eppen, G.D. (1985). Capital rationing and organizational slack in capital budgeting. *Management Science* **31**(2), pp. 163-174.

Atuahene-Gima, K. (2005). Resolving the capability—rigidity paradox in new product innovation. *Journal of Marketing* **69**(4), pp. 61-83.

Atuahene-Gima, K., Slater, S.F. and Olson, E.M. (2005). The contingent value of responsive and proactive market orientations for new product program performance. *Journal of Product Innovation Management* **22**(6), pp. 464-482.

Audia, P.G., Locke, E.A. and Smith, K.G. (2000). The paradox of success: An archival and a laboratory study of strategic persistence following radical environmental change. *Academy of Management Journal* **43**(5), pp. 837-853.

Avery, C., Chevalier, J.A. and Schaefer, S. (1998). Why do managers undertake acquisitions? An analysis of internal and external rewards for acquisitiveness. *Journal of Law, Economics, and Organization* **14**(1), pp. 24-43.

Avolio, B.J., Yammarino, F.J. and Bass, B.M. (1991). Identifying common methods variance with data collected from a single source: An unresolved sticky issue. *Journal of Management* **17**(3), pp. 571-587.

Axelrod, R.M. (1976). *Structure of decision: The cognitive maps of political elites*. Princeton, New Jersey: Princeton University Press.

Ayidiya, S.A. and McClendon, M.J. (1990). Response effects in mail surveys. *Public Opinion Quarterly* **54**(2), pp. 229-247.

Ajzen, I. and Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin* **84**(5), pp. 888-918.

Baehr, M.E. (1953). A simplified procedure for the measurement of employee attitudes. *Journal of Applied Psychology* **37**(3), pp. 163-167.

Bagozzi, R.P. (1993). Assessing construct validity in personality research: Applications to measures of self-esteem. *Journal of Research in Personality* **27**(1), pp. 49-87.

Barnard, C.I. (1938). *The functions of the executive*. Cambridge, Massachusetts: Harvard University Press.

Barney, J.B (1991). Firm resources and sustained competitive advantage. *Journal of Management* **17**(1), pp. 99-120.

Barney, J.B. and Arikan, A.M. (2001). The resource-based view: Origins and implications. In: Hitt, M.A., Freeman, R.E. and Harrison, J.S. *The Blackwell handbook of strategic management*, pp. 124-188. Oxford: Malden Blackwell.

Barney, J.B. and Hansen, M.H. (1994). Trustworthiness as a source of competitive advantage. *Strategic Management Journal* **15**(1), pp. 175-190.

Barreto, I. (2012). A behavioral theory of market expansion based on the opportunity prospects rule. *Organization Science* **23**(4), pp. 1008-1023.

Bauer, T.N., Erdogan, B., Liden, R.C. and Wayne, S.J. (2006). A longitudinal study of the moderating role of extraversion: Leader-member exchange, performance, and turnover during new executive development. *Journal of Applied Psychology* **91**(2), pp. 298-310.

Bauer, T.N., Truxillo, D.M., Sanchez, R.J., Craig, J.M., Ferrara, P. and Campion, M.A. (2001). Applicant reactions to selection: Development of the selection procedural justice scale (SPJS). *Personnel Psychology* **54**(2), pp. 387-419.

Baumgartner, H. and Steenkamp, J.B.E.M. (2001). Response styles in marketing research: A cross-national investigation. *Journal of Marketing Research* **38**(2), pp. 143-156.

Becker, T.E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods* **8**(3), pp. 274-289.

Becker, T.E., Atinc, G., Breaugh, J.A., Carlson, K.D., Edwards, J.R. and Spector, P.E. (2016). Statistical control in correlational studies: 10 essential recommendations for organizational researchers. *Journal of Organizational Behavior* **37**(2), pp. 157-167.

Beenen, G., Pichler, S. and Levy, P.E. (2017). Self-determined feedback seeking: The role of perceived supervisor autonomy support. *Human Resource Management* **56**(4), pp. 555-569.

Beenen, G. and Rousseau, D.M. (2010). Getting the most from MBA internships: Promoting intern learning and job acceptance. *Human Resource Management* **49**(1), pp. 3-22.

Belli, R.F., Traugott, M.W. and Beckmann, M.N. (2001). What leads to voting overreports? Contrasts of overreporters to validated voters and admitted nonvoters in the American National Election Studies. *Journal of Official Statistics* **17**(4), pp. 479-498.

Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin* **107**(2), pp. 238-246.

Bergh, D.D. (1997). Predicting divestiture of unrelated acquisitions: An integrative model of ex ante conditions. *Strategic Management Journal* **18**(9), pp. 715-731.

Bernerth, J.B. and Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology* **69**(1), pp. 229-283.

Bernerth, J.B., Walker, H.J. and Harris, S.G. (2016). Rethinking the benefits and pitfalls of leader–member exchange: A reciprocity versus self-protection perspective. *Human Relations* **69**(3), pp. 661-684.

Bhaskar, R. (1978). *A realist theory of science.* Hassocks: Harvester Press.

Bhaskar, R. (1989). *Reclaiming reality*. London: Verso.

Bhaskar, R. (1998). Philosophy and scientific realism. In: Archer, M., Bhaskar, R. and Collier, A. *Critical Realism: Essential Readings*, pp. 16-47. London: Routledge.

Bissing-Olson, M.J., Iyer, A., Fielding, K.S. and Zacher, H. (2013). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior* **34**(2), pp. 156-175.

Bolino, M.C. and Feldman, D.C. (2000). The antecedents and consequences of underemployment among expatriates. *Journal of Organizational Behavior* **21**(8), pp. 889-911.

Bolino, M.C. and Turnley, W.H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman taxonomy. *Organizational Research Methods* **2**(2), pp. 187-206.

Borsboom, D. (2006). The attack of the psychometricians. *Psychometrika* **71**(3), pp. 425-440.

Bourgeois, L.J. (1981). On the measurement of organizational slack. *Academy of Management Review* **6**(1), pp. 29-39.

Bourgeois, L.J. and Singh, J.V. (1983). Organizational slack and political behavior among top management teams. *Academy of Management Proceedings,* pp. 43-47.

Bowen, F.E. (2002). Organizational slack and corporate greening: Broadening the debate. *British Journal of Management* **13**(4), pp. 305-316.

Bowen, H.P. and Wiersema, M.F. (1999). Matching method to paradigm in strategy research: Limitations of cross-sectional analysis and some methodological alternatives. *Strategic Management Journal* **20**(7), pp. 625-636.

Bowman, E.H. and Hurry, D. (1993). Strategy through the option lens: An integrated view of resource investments and the incremental-choice process. *Academy of Management Review* **18**(4), pp. 760-782.

Bradley, S.W., Shepherd, D.A. and Wiklund, J. (2011). The importance of slack for new organizations facing 'tough' environments. *Journal of Management Studies* **48**(5), pp. 1071-1097.

Brammer, S., Williams, G. and Zinkin, J. (2007). Religion and attitudes to corporate social responsibility in a large cross-country sample. *Journal of Business Ethics* **71**(3), pp. 229-243.

Brannon, L.A., Tagler, M.J. and Eagly, A.H. (2007). The moderating role of attitude strength in selective exposure to information. *Journal of Experimental Social Psychology* **43**(4), pp. 611-617.

Brau, J.C. (2002). Do banks price owner–manager agency costs? An examination of small business borrowing. *Journal of Small Business Management* **40**(4), pp. 273-286.

Breaugh, J.A. (2008). Important considerations in using statistical procedures to control for nuisance variables in non-experimental studies. *Human Resource Management Review* **18**(4), pp. 282-293.

Brockhaus, S.R.H. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal* **23**(3), pp. 509-520.

Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. *Academy of Management Journal* **34**(1), pp. 37-59.

Brower, H.H., Lester, S.W., Korsgaard, M.A. and Dineen, B.R. (2009). A closer look at trust between managers and subordinates: Understanding the effects of both trusting and being trusted on subordinate outcomes. *Journal of Management* **35**(2), pp. 327-347.

Brower, H.H., Schoorman, F.D. and Tan, H.H. (2000). A model of relational leadership: The integration of trust and leader–member exchange. *The Leadership Quarterly* **11**(2), pp. 227-250.

Browne, M.W. and Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research* **21**(2), pp. 230-258.

Brush, T.H., Bromiley, P. and Hendrickx, M. (2000). The free cash flow hypothesis for sales growth and firm performance. *Strategic Management Journal* **21**(4), pp. 455-472.

Buckley, P.J. and Casson, M. (1976). *The future of the multinational enterprise*. London: Macmillan.

Burke, M.J., Brief, A.P. and George, J.M. (1993). The role of negative affectivity in understanding relations between self-reports of stressors and strains: A comment on the applied psychology literature. *Journal of Applied Psychology* **78**(3), pp. 402-412.

Calori, R., Johnson, G. and Sarnin, P. (1994). CEOs' cognitive maps and the scope of the organization. *Strategic Management Journal* **15**(6), pp. 437-457.

Cameron, C.D., Brown-Iannuzzi, J.L. and Payne, B.K. (2012). Sequential priming measures of implicit social cognition: A meta-analysis of associations with behavior and explicit attitudes. *Personality and Social Psychology Review* **16**(4), pp. 330-350.

Carlson, K.D. and Wu, J. (2012). The illusion of statistical control: Control variable practice in management research. *Organizational Research Methods* **15**(3), pp. 413-435.

Castellaneta, F. and Gottschalg, O. (2016). Does ownership matter in private equity? The sources of variance in buyouts' performance. *Strategic Management Journal* **37**(2), pp. 330-348.

Cattell, R.B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research* **1**(2), pp. 245-276.

Chakrabarti, A. (2015). Organizational adaptation in an economic shock: The role of growth reconfiguration. *Strategic Management Journal* **36**(11), pp. 1717-1738.

Chang, S.J., Van Witteloostuijn, A. and Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies* **41**(2), pp. 178-184.

Chatterjee, S. and Wernerfelt, B. (1988). Related or unrelated diversification: A resource based approach. *Academy of Management Proceedings*, pp. 7-11.

Chattopadhyay, P., Glick, W.H. and Huber, G.P. (2001). Organizational actions in response to threats and opportunities. *Academy of Management Journal* **44**(5), pp. 937-955.

Chen, C.J. and Huang, Y.F. (2010). Creative workforce density, organizational slack, and innovation performance. *Journal of Business Research* **63**(4), pp. 411-417.

Cheng, J.L. and Kesner, I.F. (1997). Organizational slack and response to environmental shifts: The impact of resource allocation patterns. *Journal of Management* **23**(1), pp. 1-18.

Cheung, G.W. and Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling* **9**(2), pp. 233-255.

Child, J. (1972). Organizational structure, environment and performance: The role of strategic choice. *Sociology* **6**(1), pp. 1-22.

Chua, R.Y. and Iyengar, S.S. (2011). Perceiving freedom givers: Effects of granting decision latitude on personality and leadership perceptions. *The Leadership Quarterly* **22**(5), pp. 863-880.

Clark, L.A. and Watson, D. (1995). Constructing Validity: Basic issues in objective scale development. *Psychological Assessment* **7**(3), pp. 309-319.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. 2nd ed. Hillsdale, New Jersey: Erlbaum.

Cohen, S.G. and Bailey, D.E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management* **23**(3), pp. 239-290.

Cohen, L., Manion, L. and Morrison, K. (2013). *Research methods in education*. 7th ed. New York: Routledge.

Colquitt, J.A., Long, D.M., Rodell, J.B. and Halvorsen-Ganepola, M.D. (2015). Adding the "in" to justice: A qualitative and quantitative investigation of the differential effects of justice rule adherence and violation. *Journal of Applied Psychology* **100**(2), pp. 278-297.

Colquitt, J.A., Scott, B.A. and LePine, J.A. (2007). Trust, trustworthiness, and trust propensity: a meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology* **92**(4), pp. 909-927.

Combs, J.G. and Ketchen, D.J. (1999a). Can capital scarcity help agency theory explain franchising? Revisiting the capital scarcity hypothesis. *Academy of Management Journal* **42**(2), pp. 196-207.

Combs, J.G. and Ketchen, D.J. (1999b). Explaining interfirm cooperation and performance: Toward a reconciliation of predictions. *Strategic Management Journal* **20**(9), pp. 867-888.

Conte, J.M., Dean, M.A., Ringenbach, K.L., Moran, S.K. and Landy, F.J. (2005). The relationship between work attitudes and job analysis ratings: Do rating scale type and task discretion matter? *Human Performance* **18**(1), pp. 1-21.

Converse, J.M. and Presser, S. (1986). *Survey questions: Handcrafting the standardized questionnaire*. London: Sage.

Conway, J.M. and Huffcutt, A.I. (2003). A review and evaluation of exploratory factor analysis practices in organizational research. *Organizational Research Methods* **6**(2), pp. 147-168.

Conway, J.M. and Lance, C.E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology* **25**(3), pp.325-334.

Cook, J. and Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfilment. *Journal of Occupational and Organizational Psychology* **53**(1), pp. 39-52.

Cortina, J.M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology* **78**(1), pp. 98-104.

Coyle-Shapiro, J.A. and Conway, N. (2005). Exchange relationships: Examining psychological contracts and perceived organizational support. *Journal of Applied Psychology* **90**(4), pp. 774-781.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika* **16**(3), pp. 297-334.

Crowne, D.P. and Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology* **24**(4), pp. 349-354.

Cruz, C.C., Gómez-Mejia, L.R. and Becerra, M. (2010). Perceptions of benevolence and the design of agency contracts: CEO-TMT relationships in family firms. *Academy of Management Journal* **53**(1), pp. 69-89.

Cunningham, W.A., Preacher, K.J. and Banaji, M.R. (2001). Implicit attitude measures: Consistency, stability, and convergent validity. *Psychological Science* **12**(2), pp. 163-170.

Cyert, R.M. and March, J.G. (1963). *A behavioral theory of the firm*. Englewood Cliffs: Prentice-Hall.

D'Aveni, R.A. and Ravenscraft, D.J. (1994). Economies of integration versus bureaucracy costs: Does vertical integration improve performance? *Academy of Management Journal* **37**(5), pp. 1167-1206.

Dai, W. and Kittilaksanawong, W. (2014). How are different slack resources translated into firm growth? Evidence from China. *International Business Research* **7**(2), pp. 1-12.

Daily, C.M. and Dalton, D.R. (1994). Corporate governance and the bankrupt firm: An empirical assessment. *Strategic Management Journal* **15**(8), pp. 643-654.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal* **34**(3), pp. 555-590.

Daniel, F., Lohrke, F.T., Fornaciari, C.J. and Turner, J.R.A. (2004). Slack resources and firm performance: A meta-analysis. *Journal of Business Research* **57**(6), pp. 565-574.

Danna, K. and Griffin, R.W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management* **25**(3), pp. 357-384.

Dansereau, F., Graen, G.B. and Haga, W.J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance* **13**(1), pp. 46-78.

Davies, M.F. (2003). Confirmatory bias in the evaluation of personality descriptions: positive test strategies and output interference. *Journal of Personality and Social Psychology* **85**(4), pp. 736-744.

Davis, G.F. and Stout, S.K. (1992). Organization theory and the market for corporate control: A dynamic analysis of the characteristics of large takeover targets, 1980-1990. *Administrative Science Quarterly* **37**(4), pp. 605-633.

De Winter, J.C.F. and Dodou, D. (2012). Factor recovery by principal axis factoring and maximum likelihood factor analysis as a function of factor pattern and sample size. *Journal of Applied Statistics* **39**(3), pp. 695-710.

DeCoster, J., Banner, M.J., Smith, E.R. and Semin, G.R. (2006). On the inexplicability of the implicit: Differences in the information provided by implicit and explicit tests. *Social Cognition* **24**(1), pp. 5-21.

Dempsey, M.A. and Mitchell, A.A. (2010). The influence of implicit attitudes on choice when consumers are confronted with conflicting attribute information. *Journal of Consumer Research* **37**(4), pp. 614-625.

DeVellis, R.F. (2012). *Scale development: Theory and applications*. 3rd ed. Thousand Oaks, California: Sage.

Dharwadkar, B., George, G. and Brandes, P. (2000). Privatization in emerging economies: An agency theory perspective. *Academy of Management Review* **25**(3), pp. 650-669.

Dienesch, R.M. and Liden, R.C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review* **11**(3), pp. 618-634.

Dimick, D.E. and Murray, V.V. (1978). Correlates of substantive policy decisions in organizations: The case of human resource management. *Academy of Management Journal* **21**(4), pp. 611-623.

Dirks, K.T. and Ferrin, D.L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology* **87**(4), pp. 611-628.

Dobrow, S.R. and Tosti-Kharas, J. (2011). Calling: The development of a scale measure. *Personnel Psychology* **64**(4), pp. 1001-1049.

Donaldson, L. and Davis, J.H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management* **16**(1), pp. 49-64.

Dong, J.Q. (2016). On the contingent rent-generating potential of firm-specific managerial experience. *Journal of Business Research* **69**(10), pp. 4358-4362.

Dooley, R.S. and Fryxell, G.E. (1999). Attaining decision quality and commitment from dissent: The moderating effects of loyalty and competence in strategic decision-making teams. *Academy of Management Journal* **42**(4), pp. 389-402.

Doty, D.H. and Glick, W.H. (1998). Common methods bias: Does common methods variance really bias results? *Organizational Research Methods* **1**(4), pp. 374-406.

Dovidio, J.F., Kawakami, K., Johnson, C., Johnson, B. and Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology* **33**(5), pp. 510-540.

Dulac, T., Coyle-Shapiro, J.A., Henderson, D.J. and Wayne, S.J. (2008). Not all responses to breach are the same: The interconnection of social exchange and psychological contract processes in organizations. *Academy of Management Journal* **51**(6), pp. 1079-1098.

Dulebohn, J.H., Bommer, W.H., Liden, R.C., Brouer, R.L. and Ferris, G.R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management* **38**(6), pp. 1715-1759.

Dutta, D.K., Malhotra, S. and Zhu, P. (2016). Internationalization process, impact of slack resources, and role of the CEO: The duality of structure and agency in evolution of cross-border acquisition decisions. *Journal of World Business* **51**(2), pp. 212-225.

Eagly, A.H. and Chaiken, S. (2007). The advantages of an inclusive definition of attitude. *Social Cognition* **25**(5), pp. 582-602.

Earley, P.C. and Peterson, R.S. (2004). The elusive cultural chameleon: Cultural intelligence as a new approach to intercultural training for the global manager. *Academy of Management Learning & Education* **3**(1), pp. 100-115.

Einsenberger, R., Cummings, J., Aemeli, S. and Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology* **82**(5), pp. 812-820.

Eisenberger, R., Huntington, R., Hutchison, S. and Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology* **71**(3), pp. 500-507.

Eisenberger, R., Shoss, M.K., Karagonlar, G., Gonzalez-Morales, M.G., Wickham, R.E. and Buffardi, L.C. (2014). The supervisor POS–LMX–subordinate POS chain: Moderation by reciprocation wariness and supervisor's organizational embodiment. *Journal of Organizational Behavior* **35**(5), pp. 635-656.

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. and Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology* **87**(3), pp. 565-573.

Eisenhardt, K.M. (1989). Agency theory: An assessment and review. *Academy of Management Review* **14**(1), pp. 57-74.

El-Akremi, A., Gond, J.P., Swaen, V., Roeck, K.D. and Igalens, J. (in press). How do employees perceive corporate responsibility? Development and validation of a multidimensional corporate stakeholder responsibility scale. *Journal of Management*.

Epitropaki, O., Kapoutsis, I., Ellen, B.P., Ferris, G.R., Drivas, K. and Ntotsi, A. (2016). Navigating uneven terrain: The roles of political skill and LMX differentiation in prediction of work relationship quality and work outcomes. *Journal of Organizational Behavior* **37**(7), pp. 1078-1103.

Erdogan, B. and Bauer, T.N. (2009). Perceived overqualification and its outcomes: The moderating role of empowerment. *Journal of Applied Psychology* **94**(2), pp. 557-565.

Erdogan, B., Bauer, T.N. and Taylor, S. (2015). Management commitment to the ecological environment and employees: Implications for employee attitudes and citizenship behaviors. *Human Relations* **68**(11), pp. 1669-1691.

Ettlie, J.E. (1985). The impact of interorganizational manpower flows on the innovation process. *Management Science* **31**(9), pp. 1055-1071.

Ettlie, J.E. (1997). Quality, technology, and global manufacturing. *Production and Operations Management* **6**(2), pp. 150-166.

Fabrigar, L.R., Strahan, E.J., MacCallum, R.C. and Wegener, D.T. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods* **4**(3), pp. 272-299.

Fama, E.F. (1980). Agency problems and the theory of the firm. *Academy of Management Review* **88**(2), pp. 288-307.

Fama, E.F. and Jensen, M.C. (1983). Separation of ownership and control. *Journal of Law and Economics* **26**(2), pp. 301-325.

Farh, J., Hackett, R.D. and Liang, J. (2007). Individual-level cultural values as moderators of perceived organizational support–employee outcome relationships in China: Comparing the effects of power distance and traditionality. *Academy of Management Journal* **50**(3), pp. 715-729.

Fazio, R.H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. *Advances in Experimental Social Psychology* **23,** pp. 75-109.

Fazio, R.H., Jackson, J.R., Dunton, B.C. and Williams, C.J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology* **69**(6), pp. 1013-1027.

Fazio, R.H. and Towles-Schwen, T. (1999). The MODE model of attitude-behavior processes. In: Chaiken, S. and Trope, Y. *Dual-process Theories in Social Psychology*, pp. 97-116. New York: Guilford Press.

Feldman, D.C. (1996). The nature, antecedents and consequences of underemployment. *Journal of Management* **22**(3), pp. 385-407.

Ferrin, D.L., Bligh, M.C. and Kohles, J.C. (2007). Can I trust you to trust me? A theory of trust, monitoring, and cooperation in interpersonal and intergroup relationships. *Group & Organization Management* **32**(4), pp. 465-499.

Finkelstein, S. and Hambrick, D.C. (1990). Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly* **35**(3), pp. 484-503.

Fiol, C.M. and Huff, A.S. (1992). Maps for managers: Where are we? Where do we go from here? *Journal of Management Studies* **29**(3), pp. 267-285.

Floyd, F.J. and Widaman, K.F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment* **7**(3), pp. 286.

Folger, R. and Konovsky, M.A. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. *Academy of Management Journal* **32**(1), pp. 115-130.

Ford, J.K., MacCallum, R.C. and Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology* **39**(2), pp. 291-314.

Fornell, C. and Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* **18**(1), pp. 39-50.

Fox, I. and Marcus, A. (1992). The causes and consequences of leveraged management buyouts. *Academy of Management Review* **17**(1), pp. 62-85.

Franke, G.H. (1997). The whole is more than the sum of its parts: The effects of grouping and randomizing items on the reliability and validity of questionnaires. *European Journal of Psychological Assessment* **13**(2), pp. 67.

Franko, L.G. (1989). Global corporate competition: Who's winning, who's losing, and the R&D factor as one reason why. *Strategic Management Journal* **10**(5), pp. 449-474.

Franquesa, J. and Brandyberry, A. (2009). Organizational slack and information technology innovation adoption in SMEs. *International Journal of e-Business Research* **5**(1), pp. 25-48.

Frantom, C., Green, K.E. and Lam, T. (2001). Item grouping effects on invariance of attitude items. *Journal of Applied Measurement* **3**(1), pp. 38-49.

Frieder, R.E., Hochwarter, W.A. and DeOrtentiis, P.S. (2015). Attenuating the negative effects of abusive supervision: The role of proactive voice behavior and resource management ability. *The Leadership Quarterly* **26**(5), pp. 821-837.

Fry, T.D., Steele, D.C. and Saladin, B.A. (1994). A service-oriented manufacturing strategy. *International Journal of Operations & Production Management*, **14**(10), pp. 17-29.

Fuller, J.B., Marler, L.E. and Hester, K. (2006). Promoting felt responsibility for constructive change and proactive behavior: Exploring aspects of an elaborated model of work design. *Journal of Organizational Behavior* **27**(8), pp. 1089-1120.

Fulmer, C.A. and Gelfand, M.J. (2012). At what level (and in whom) we trust. *Journal of Management* **38**(4), pp. 1167-1230.

Gaba, V. and Joseph, J. (2013). Corporate structure and performance feedback: Aspirations and adaptation in M-form firms. *Organization Science* **24**(4), pp. 1102-1119.

Galbreath, J. (2016). When do board and management resources complement each other? A study of effects on corporate social responsibility. *Journal of Business Ethics* **136**(2), pp. 281-292.

Galesic, M., Tourangeau, R., Couper, M.P. and Conrad, F.G. (2008). Eye-tracking data: New insights on response order effects and other cognitive shortcuts in survey responding. *Public Opinion Quarterly* **72**(5), pp. 892-913.

Gary, M.S. and Wood, R.E. (2011). Mental models, decision rules, and performance heterogeneity. *Strategic Management Journal* **32**(6), pp. 569-594.

Gawronski, B. and De Houwer, J. (2014). Implicit measures in social and personality psychology. In: Reis, H.T. and Judd, C.M. *Handbook of Research Methods in Social and Personality Psychology*. pp. 283-310. New York: Cambridge University Press.

Geiger, S.W. and Cashen, L.H. (2002). A multidimensional examination of slack and its impact on innovation. *Journal of Managerial Issues* **14**(1), pp. 68-84.

Gentry, R., Dibrell, C. and Kim, J. (2016). Long-Term orientation in publicly traded family businesses: Evidence of a dominant logic. *Entrepreneurship Theory and Practice* **40**(4), pp. 733-757.

George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal* **48**(4), pp. 661-676.

Gilbert, D.T., Krull, D.S. and Malone, P.S. (1990). Unbelieving the unbelievable: Some problems in the rejection of false information. *Journal of Personality and Social Psychology* **59**(4), pp. 601-613.

Gill, C.M. and Hodgkinson, G.P. (2007). Development and validation of the five factor model questionnaire (FFMQ): An adjectival-based personality inventory for use in occupational settings. *Personnel Psychology* **60**(3), pp. 731-766.

Ginsberg, A. (1994). Minding the competition: From mapping to mastery. *Strategic Management Journal* **15**(S1), pp. 153-174.

Gkorezis, P., Bellou, V., Xanthopoulou, D., Bakker, A.B. and Tsiftsis, A. (2016). Linking football team performance to fans' work engagement and job performance: Test of a spillover model. *Journal of Occupational and Organizational Psychology* **89**(4), pp. 791-812.

Glaser, M., Lopez-de-Silanes, F. and Sautner, Z. (2013). Opening the black box: Internal capital markets and managerial power. *The Journal of Finance* **68**(4), pp. 1577-1631.

Goerzen, A. and Beamish, P.W. (2007). The Penrose effect: 'Excess' expatriates in multinational enterprises. *Management International Review* **47**(2), pp. 221-239.

Gorsuch, R.L. (1983). *Factor analysis*. 2nd ed. Hillsdale, N.J.: Lawrence Erlbaum Associates.

Gorsuch, R.L. (1997). Exploratory factor analysis: Its role in item analysis. *Journal of Personality Assessment* **68**(3), pp. 532-560.

Graen, G.B. and Cashman, J.F. (1975). A role-making model of leadership in formal organizations: A developmental approach. *Leadership Frontiers* **6**(2), pp. 143-165.

Graen, G.B. and Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over

25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly* **6**(2), pp. 219-247.

Green, F. and Zhu, Y. (2010). Overqualification, job dissatisfaction, and increasing dispersion in the returns to graduate education. *Oxford Economic Papers* **62**(4), pp. 740-763.

Greenleaf, E.A. (1992). Improving rating scale measures by detecting and correcting bias components in some response styles. *Journal of Marketing Research* **29**(2), pp. 176-188.

Greenley, G.E. and Oktemgil, M. (1998). A comparison of slack resources in high and low performing British companies. *Journal of Management Studies* **35**(3), pp. 377-398.

Greenwald, A.G. and Banaji, M.R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review* **102**(1), pp. 4-27.

Greguras, G.J. and Ford, J.M. (2006). An examination of the multidimensionality of supervisor and subordinate perceptions of leader-member exchange. *Journal of Occupational and Organizational Psychology* **79**(3), pp. 433-465.

Greve, H.R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal* **46**(6), pp. 685-702.

Groen, B.A., Wilderom, C.P. and Wouters, M.J. (2017). High job performance through co-developing performance measures with employees. *Human Resource Management* **56**(1), pp. 111-132.

Guttman, L. (1944). A basis for scaling qualitative data. *American Sociological Review* **9**(2), pp. 139-150.

Hackman, J.R. and Oldham, G.R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology* **60**(2), pp. 159-170.

Hair, J., Black, W., Babin, B. and Anderson, R. (2010). *Multilevel data analysis: A global perspective*. Upper Saddle River, NJ: Pearson Prentice Hall.

Haleblian, J. and Finkelstein, S. (1993). Top management team size, CEO dominance, and firm performance: The moderating roles of environmental

turbulence and discretion. *Academy of Management Journal* **36**(4), pp. 844-863.

Hall, R. (1992). The strategic analysis of intangible resources. *Strategic Management Journal* **13**(2), pp. 135-144.

Hambrick, D.C. and Finkelstein, S. (1987). Managerial discretion: A bridge between polar views of organizational outcomes. *Research in Organizational Behavior* **9,** pp. 369-406.

Hannan, M.T. and Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology* **82**(5), pp. 929-964.

Harris, K.J., Wheeler, A.R. and Kacmar, K.M. (2009). Leader–member exchange and empowerment: Direct and interactive effects on job satisfaction, turnover intentions, and performance. *The Leadership Quarterly* **20**(3), pp. 371-382.

Harrison, D.A. and McLaughlin, M.E. (1996). Structural properties and psychometric qualities of organizational self-reports: Field tests of connections predicted by cognitive theory. *Journal of Management* **22**(2), pp. 313-338.

Hartmann, A. (2006). The role of organizational culture in motivating innovative behaviour in construction firms. *Construction Innovation: Information, Process, Management* **6**(3), pp. 159-172.

Haynie, M. and Shepherd, D.A. (2009). A measure of adaptive cognition for entrepreneurship research. *Entrepreneurship Theory and Practice* **33**(3), pp. 695-714.

Hayton, J.C., Allen, D.G. and Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods* **7**(2), pp. 191-205.

Hendricks, K.B., Singhal, V.R. and Zhang, R. (2009). The effect of operational slack, diversification, and vertical relatedness on the stock market reaction to supply chain disruptions. *Journal of Operations Management* **27**(3), pp. 233-246.

Henson, R.K. and Roberts, J.K. (2006). Use of exploratory factor analysis in published research: Common errors and some comment on improved practice. *Educational and Psychological Measurement* **66**(3), pp. 393-416.

Hill, C.W. and Jones, T.M. (1992). Stakeholder-agency theory. *Journal of Management Studies* **29**(2), pp. 131-154.

Himmelfarb, S. (1993). The measurement of attitudes. In: Eagly, A.H. and Chaiken, S. *The Psychology of Attitudes*, pp. 23 - 87. Fort Worth, TX: Harcourt Brace Jovanovich.

Hinkin, T.R. (1995). A review of scale development practices in the study of organizations. *Journal of Management* **21**(5), pp. 967-988.

Hinkin, T.R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods* **1**(1), pp. 104-121.

Hodgkinson, G.P. (1992). Research notes and communications development and validation of the strategic locus of control scale. *Strategic Management Journal* **13**(4), pp. 311-317.

Hodgkinson, G.P. (2008). Managerial and organizational cognition. In: Clegg, S. and Bailey, J.R. *International Encyclopedia of Organization Studies*, pp. 860-863. Thousand Oaks: Sage Publications.

Hodgkinson, G.P., Bown, N.J., Maule, A.J., Glaister, K.W. and Pearman, A.D. (1999). Research notes and communications breaking the frame: An analysis of strategic cognition and decision making under uncertainty. *Strategic Management Journal* **20**(10), pp. 977-985.

Hodgkinson, G.P. and Clarkson, G.P. (2005). What have we learned from almost thirty years of research on causal mapping? Methodological lessons and choices for the information systems and information technology communities. In: Narayanan, V.K. and Armstrong, D.J. *Causal Mapping For Information Systems and Technology Research: Approaches, Advances and Illustrations*, pp. 46-79. Hershey, PA: Idea Group.

Hodgkinson, G.P. and Gill, C.M.H.D. (2015). Five-Factor Model of Personality. p. 1-3. *In* Flood, P.C. and Freeney, Y. (ed.), Wiley Encyclopedia of Management, 3rd ed, vol. 11. John Wiley, Chichester, UK.

Hodgkinson, G.P., Maule, A.J. and Bown, N.J. (2004). Causal cognitive mapping in the organizational strategy field: A comparison of alternative elicitation procedures. *Organizational Research Methods* **7**(1), pp. 3-26.

Hodgkinson, G.P. and Sadler-Smith, E. (2003). Complex or unitary? A critique and empirical re-assessment of the Allinson-Hayes Cognitive Style Index. *Journal of Occupational and Organizational Psychology* **76**(2), pp. 243-268.

Hodgkinson, G.P. and Starkey, K. (2011). Not simply returning to the same answer over and over again: Reframing relevance. *British Journal of Management* **22**(3), pp. 355-369.

Hodgkinson, G.P. and Starkey, K. (2012). Extending the foundations and reach of design science: Further reflections on the role of critical realism. *British Journal of Management* **23**(4), pp. 605-610.

Hofmann, W., Gawronski, B., Gschwendner, T., Le, H. and Schmitt, M. (2005). A meta-analysis on the correlation between the Implicit Association Test and explicit self-report measures. *Personality and Social Psychology Bulletin* **31**(10), pp. 1369-1385.

Hogan, J. and Holland, B. (2003). Using theory to evaluate personality and job-performance relations. *Journal of Applied Psychology* **88**(1), pp. 100-112.

Holbrook, A.L., Green, M.C. and Krosnick, J.A. (2003). Telephone versus face-to-face interviewing of national probability samples with long questionnaires: Comparisons of respondent satisficing and social desirability response bias. *Public Opinion Quarterly* **67**(1), pp. 79-125.

Homer, P.M. and Kahle, L.R. (1988). A structural equation test of the value-attitude-behavior hierarchy. *Journal of Personality and Social Psychology* **54**(4), pp. 638-646.

Horan, P.M., DiStefano, C. and Motl, R.W. (2003). Wording effects in self-esteem scales: Methodological artifact or response style? *Structural Equation Modeling* **10**(3), pp. 435-455.

Hovland, C.I. and Sherif, M. (1952). Judgmental phenomena and scales of attitude measurement: Item displacement in Thurstone scales. *The Journal of Abnormal and Social Psychology* **47**(4), pp. 822-832.

Hox, J.J. (2010). *Multilevel analysis: Techniques and applications*. London: Routledge.

Hu, L. and Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal* **6**(1), pp. 1-55.

Huang, J.L., Liu, M. and Bowling, N.A. (2015). Insufficient effort responding: Examining an insidious confound in survey data. *Journal of Applied Psychology* **100**(3), pp. 828-845.

Ilies, R., Nahrgang, J.D. and Morgeson, F.P. (2007). Leader-member exchange and citizenship behaviors: A meta-analysis. *Journal of Applied Psychology* **92**(1), pp. 269-277.

Im, S. and Workman, J.P. (2004). Market orientation, creativity, and new product performance in high-technology firms. *Journal of Marketing* **68**(2), pp. 114-132.

Jackson, D.N. (1971). The dynamics of structured personality tests: 1971. *Psychological Review* **78**(3), pp. 229-248.

James, L.R., Mulaik, S.A. and Brett, J.M. (1982). *Causal analysis: Assumptions, models, and data*. Beverly Hills, California: Sage Publications.

Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* **76**(2), pp. 323-329.

Jensen, M.C. (1988). Takeovers: Their causes and consequences. *The Journal of Economic Perspectives* **2**(1), pp. 21-48.

Jensen, M.C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance* **48**(3), pp. 831-880.

Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* **3**(4), pp. 305-360.

Johnson, R.E., Rosen, C.C. and Chang, C.H. (2011). To aggregate or not to aggregate: Steps for developing and validating higher-order

multidimensional constructs. *Journal of Business and Psychology* **26**(3), pp. 241-248.

Johnson, R.E., Rosen, C.C., Djurdjevic, E. and Taing, M.U. (2012). Recommendations for improving the construct clarity of higher-order multidimensional constructs. *Human Resource Management Review* **22**(2), pp. 62-72.

Judge, T.A. and Ilies, R. (2002). Relationship of personality to performance motivation: A meta-analytic review. *Journal of Applied Psychology* **87**(4), pp. 797-807.

Judge, T.A., Heller, D. and Mount, M.K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology* **87**(3), pp. 530-541.

Judge, T.A., Thoresen, C.J., Bono, J.E. and Patton, G.K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin* **127**(3), pp.376-407.

Kapoutsis, I., Papalexandris, A., Treadway, D.C. and Bentley, J. (in press). Measuring political will in organizations. *Journal of Management*.

Karasek, R.A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly* **24**(2), pp. 285-308.

Karasek, R.A. (1985). *Job content questionnaire and user's guide*. Los Angeles, CA: Department of industrial and systems engineering, University of Southern Los Angeles.

Karpinski, A. and Hilton, J.L. (2001). Attitudes and the Implicit Association Test. *Journal of Personality and Social Psychology* **81**(5), pp. 774-778.

Karpinski, A., Steinman, R.B. and Hilton, J.L. (2005). Attitude importance as a moderator of the relationship between implicit and explicit attitude measures. *Personality and Social Psychology Bulletin* **31**(7), pp. 949-962.

Kim, J. and Mueller, C.W. (1978). *Factor analysis: Statistical methods and practical issues*. Beverly Hills, California: Sage Publications.

Kinicki, A.J., Jacobson, K.J., Peterson, S.J. and Prussia, G.E. (2013). Development and validation of the performance management behavior questionnaire. *Personnel Psychology* **66**(1), pp. 1-45.

Kline, P. (1994). *An easy guide to factor analysis*. London: Routledge.

Kline, R.B. (2015). *Principles and practice of structural equation modeling*. New York: Guilford Publications.

Klopfer, F.J. and Madden, T.M. (1980). The middlemost choice on attitude items: Ambivalence, neutrality, or uncertainty? *Personality and Social Psychology Bulletin* **6**(1), pp. 97-101.

Knowles, E.S., Coker, M.C., Cook, D.A., Diercks, S.R., Irwin, M.E., Lundeen, E.J., Neville, J.W. and Sibicky, M.E. (1992). Order effects within personality measures. In: *Context Effects in Social and Psychological Research*, pp. 221-236. New York: Springer.

Kor, Y.Y. and Mahoney, J.T. (2000). Penrose's resource-based approach: The process and product of research creativity. *Journal of Management Studies* **37**(1), pp. 109-139.

Kottke, J.L. and Sharafinski, C.E. (1988). Measuring perceived supervisory and organizational support. *Educational and psychological Measurement* **48**(4), pp. 1075-1079.

Kraus, S.J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin* **21**(1), pp. 58-75.

Krosnick, J.A. and Smith, W.A. (1994). Attitude strenght. p. 279-289. *In* Ramachandran, V.S. (ed.), Encyclopedia of Human Behavior, vol. 1. Academic Press, San Diego, CA.

Krosnick, J.A. (1999). Survey research. *Annual Review of Psychology* **50**(1), pp. 537-567.

Krosnick, J.A. and Petty, R.E. (1995). Attitude strength: An overview. In: Petty, R.E. and Krosnick, J.A. *Attitude Strength: Antecedents and Consequences*, vol. 1, pp. 1-24. New York: Psychology Press.

Ladegard, G. and Gjerde, S. (2014). Leadership coaching, leader role-efficacy, and trust in subordinates. A mixed methods study assessing leadership coaching as a leadership development tool. *The Leadership Quarterly* **25**(4), pp. 631-646.

Lado, A.A., Boyd, N.G. and Wright, P. (1992). A competency-based model of sustainable competitive advantage: Toward a conceptual integration. *Journal of Management* **18**(1), pp. 77-91.

LaHuis, D.M., Hartman, M.J., Hakoyama, S. and Clark, P.C. (2014). Explained variance measures for multilevel models. *Organizational Research Methods* **17**(4), pp. 433-451.

Lam, H., Weiss, H.M., Welch, E.R. and Hulin, C.L. (2009). A within-person approach to work behavior and performance: Concurrent and lagged citizenship-counterproductivity associations, and dynamic relationships with affect and overall job performance. *Academy of Management Journal* **52**(5), pp. 1051-1066.

Lam, S.S. and Woo, K.S. (1997). Measuring service quality: a test-retest reliability investigation of SERVQUAL. *International Journal of Market Research* **39**(2), pp. 381.

Lau, C.M. (2011). Team and organizational resources, strategic orientations, and firm performance in a transitional economy. *Journal of Business Research* **64**(12), pp. 1344-1351.

Lau, C.M. and Eggleton, I.R. (2003). The influence of information asymmetry and budget emphasis on the relationship between participation and slack. *Accounting and Business Research* **33**(2), pp. 91-104.

Lau, D.C. and Liden, R.C. (2008). Antecedents of coworker trust: Leaders' blessings. *Journal of Applied Psychology* **93**(5), pp. 1130-1138.

Lawrence, B.S. (1997). Perspective—the black box of organizational demography. *Organization Science* **8**(1), pp. 1-22.

Leavitt, K., Fong, C.T. and Greenwald, A.G. (2011). Asking about well-being gets you half an answer: Intra-individual processes of implicit and explicit job attitudes. *Journal of Organizational Behavior* **32**(4), pp. 672-687.

LeBreton, J.M., Barksdale, C.D., Robin, J. and James, L.R. (2007). Measurement issues associated with conditional reasoning tests: Indirect measurement and test faking. *Journal of Applied Psychology* **92**(1), pp. 1-16.

Lee, H.J. (2004). The role of competence-based trust and organizational identification in continuous improvement. *Journal of Managerial Psychology* **19**(6), pp. 623-639.

Lee, K. and Ashton, M.C. (2007). Factor analysis in personality research. In: Robins, R.W., Fraley, R.C. and Krueger, R.F. *Handbook of Research Methods in Personality Psychology*, pp. 424-443. New York: Guilford Press.

Lee, S.M., Koopman, J., Hollenbeck, J.R., Wang, L.C. and Lanaj, K. (2015). The Team Descriptive Index (TDI): A multidimensional scaling approach for team description. *Academy of Management Discoveries* **1**(1), pp. 91-116.

Leibenstein, H. (1969). Organizational or frictional equilibria, x-efficiency, and the rate of innovation. *Quarterly Journal of Economics* **83**(4), pp. 600-623.

Leibenstein, H. (1976). *Beyond economic man: A new foundation for microeconomics*. Cambridge, MA.: Harvard University Press.

Leiter, M.P. (1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior* **12**(2), pp. 123-144.

Lenway, S.A. and Rehbein, K. (1991). Leaders, followers, and free riders: An empirical test of variation in corporate political involvement. *Academy of Management Journal* **34**(4), pp. 893-905.

Levin, D.Z., Whitener, E.M. and Cross, R. (2006). Perceived trustworthiness of knowledge sources: The moderating impact of relationship length. *Journal of Applied Psychology* **91**(5), pp. 1163-1171.

Levinthal, D.A. (2011). A behavioral approach to strategy—what's the alternative? *Strategic Management Journal* **32**(13), pp. 1517-1523.

Liden, R.C. and Maslyn, J.M. (1998). Multidimensionality of leader-member exchange: An empirical assessment through scale development. *Journal of Management* **24**(1), pp. 43-72.

Liden, R.C., Wayne, S.J., Meuser, J.D., Hu, J., Wu, J. and Liao, C. (2015). Servant leadership: Validation of a short form of the SL-28. *The Leadership Quarterly* **26**(2), pp. 254-269.

Lin, W.T., Cheng, K.Y. and Liu, Y. (2009). Organizational slack and firm's internationalization: A longitudinal study of high-technology firms. *Journal of World Business* **44**(4), pp. 397-406.

Liu, H., Ding, X.H., Guo, H. and Luo, J.H. (2014). How does slack affect product innovation in high-tech Chinese firms: The contingent value of entrepreneurial orientation. *Asia Pacific Journal of Management* **31**(1), pp. 47-68.

Lockett, A., Thompson, S. and Morgenstern, U. (2009). The development of the resource-based view of the firm: A critical appraisal. *International Journal of Management Reviews* **11**(1), pp. 9-28.

Love, E.G. and Nohria, N. (2005). Reducing slack: The performance consequences of downsizing by large industrial firms, 1977–93. *Strategic Management Journal* **26**(12), pp. 1087-1108.

Lucas, R.E., Diener, E. and Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology* **71**(3), pp. 616-628.

Luo, Y. (2008). Procedural fairness and interfirm cooperation in strategic alliances. *Strategic Management Journal* **29**(1), pp. 27-46.

MacCallum, R.C., Widaman, K.F., Zhang, S. and Hong, S. (1999). Sample size in factor analysis. *Psychological Methods* **4**(1), pp. 84-99.

Mallidou, A.A., Cummings, G.G., Ginsburg, L.R., Chuang, Y.T., Kang, S., Norton, P.G. and Estabrooks, C.A. (2011). Staff, space, and time as dimensions of organizational slack: A psychometric assessment. *Health Care Management Review* **36**(3), pp. 252-264.

March, J.G. (1979). Interview with James G. March. *In* Association, S.B.S.A. (ed.), Stanford Graduate School of Business, Stanford, CA.

March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science* **2**(1), pp. 71-87.

March, J.G. and Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science* **33**(11), pp. 1404-1418.

March, J.G. and Simon, H.A. (1958). *Organizations*. New York: Wiley.

Marlin, D. and Geiger, S.W. (2015). A reexamination of the organizational slack and innovation relationship. *Journal of Business Research* **68**(12), pp. 2683-2690.

Marsh, H.W. (1996). Positive and negative global self-esteem: A substantively meaningful distinction or artifactors? *Journal of Personality and Social Psychology* **70**(4), pp. 810-819.

Marsh, H.W. and Hau, K. (1996). Assessing goodness of fit: Is parsimony always desirable? *The Journal of Experimental Education* **64**(4), pp. 364-390.

Marsh, H.W., Scalas, L.F. and Nagengast, B. (2010). Longitudinal tests of competing factor structures for the Rosenberg Self-Esteem Scale: traits, ephemeral artifacts, and stable response styles. *Psychological Assessment* **22**(2), pp. 366-381.

Martins, E.C. and Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management* **6**(1), pp. 64-74.

Marucheck, A. and McClelland, M. (1992). Planning capacity utilization in an assemble-to-order environment. *International Journal of Operations & Production Management* **12**(9), pp. 18-38.

Mathieu, J., Aguinis, H., Culpepper, S. and Chen, G. (2012). Improving the accuracy of inferences about cross-level interaction tests in random coefficient modeling. *Journal of Applied Psychology* **97**(5), pp. 951-966.

Matta, F.K., Scott, B.A., Koopman, J. and Conlon, D.E. (2015). Does seeing "eye to eye" affect work engagement and organizational citizenship behavior? A role theory perspective on LMX agreement. *Academy of Management Journal* **58**(6), pp. 1686-1708.

Mayer, R.C. and Davis, J.H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology* **84**(1), pp. 123-136.

Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of Management Review* **20**(3), pp. 709-734.

Maynard, D.C., Joseph, T.A. and Maynard, A.M. (2006). Underemployment, job attitudes, and turnover intentions. *Journal of Organizational Behavior* **27**(4), pp. 509-536.

McArdle, J.J. (1990). Principles versus principals of structural factor analyses. *Multivariate Behavioral Research* **25**(1), pp. 81-87.

McCrae, R.R. and Costa, P.T. (2004). A contemplated revision of the NEO Five-Factor Inventory. *Personality and Individual Differences* **36**(3), pp. 587-596.

McGrath, R.G. (1999). Falling forward: Real options reasoning and entrepreneurial failure. *Academy of Management Review* **24**(1), pp. 13-30.

McKelvie, A., Wiklund, J. and Davidsson, P. (2006). A resource-based view on organic and acquired growth. In: *Entrepreneurship: Frameworks and Empirical Investigations from Forthcoming Leaders of European Research*, pp. 175-194. Emerald Group Publishing Limited.

Meade, A.W. and Craig, S.B. (2012). Identifying careless responses in survey data. *Psychological Methods* **17**(3), pp. 437-455.

Mellahi, K. and Wilkinson, A. (2010). A study of the association between level of slack reduction following downsizing and innovation output. *Journal of Management Studies* **47**(3), pp. 483-508.

Melnick, S.A. (1993). The effects of item grouping on the reliability and scale scores of an affective measure. *Educational and Psychological Measurement* **53**(1), pp. 211-216.

Merchant, K.A. (1985). Budgeting and the propensity to create budgetary slack. *Accounting, Organizations and Society* **10(**2), pp. 201-210.

Merritt, S.M. (2012). The two-factor solution to Allen and Meyer's (1990) affective commitment scale: Effects of negatively worded items. *Journal of Business and Psychology* **27**(4), pp. 421-436.

Meznar, M.B. and Nigh, D. (1995). Buffer or bridge? Environmental and organizational determinants of public affairs activities in American firms. *Academy of Management Journal* **38**(4), pp. 975-996.

Miller, G. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review* **63**(2), pp. 81-97.

Mishina, Y., Pollock, T.G. and Porac, J.F. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal* **25**(12), pp. 1179-1197.

Molina-Morales, F.X. and Martínez-Fernández, M.T. (2009). Too much love in the neighborhood can hurt: How an excess of intensity and trust in relationships may produce negative effects on firms. *Strategic Management Journal* **30**(9), pp. 1013-1023.

Morgeson, F.P., Delaney-Klinger, K. and Hemingway, M.A. (2005). The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. *Journal of Applied Psychology*, **90**(5), pp. 399-406.

Morgeson, F.P. and Humphrey, S.E. (2006). The Work Design Questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology* **91**(6), pp. 1321-1339.

Mumford, M.D. and Stokes, G.S. (1992). Developmental determinants of individual action: Theory and practice in applying background measures. In: Dunnette, M.D. and M., H.L. *Handbook of Industrial and Organizational Psychology*, pp. 61-138. Palo Alto, CA: Consulting Psychologists Press.

Murphy, K.J. (1985). Corporate performance and managerial remuneration: An empirical analysis. *Journal of Accounting & Economics* **7**(1), pp. 11-42.

Murray, J.Y., Kotabe, M. and Zhou, J.N. (2005). Strategic alliance-based sourcing and market performance: Evidence from foreign firms operating in China. *Journal of International Business Studies* **36**(2), pp. 187-208.

Nadkarni, S. and Narayanan, V.K. (2005). Validity of the structural properties of text-based causal maps: An empirical assessment. *Organizational Research Methods* **8**(1), pp. 9-40.

Narayan, S. and Krosnick, J.A. (1996). Education moderates some response effects in attitude measurement. *The Public Opinion Quarterly* **60**(1), pp. 58-88.

Nohria, N. and Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal* **39**(5), pp. 1245-1264.

Nohria, N. and Gulati, R. (1997). What is the optimum amount of organizational slack? A study of the relationship between slack and innovation in multinational firms. *European Management Journal* **15**(6), pp. 603-611.

Nouri, H. (1994). Using organizational commitment and job involvement to predict budgetary slack: A research note. *Accounting, Organizations and Society* **19**(3), pp. 289-295.

Nowlis, S.M., Kahn, B.E. and Dhar, R. (2002). Coping with ambivalence: The effect of removing a neutral option on consumer attitude and preference judgments. *Journal of Consumer Research* **29**(3), pp. 319-334.

Nunnally, J.C. (1978). *Psychometric theory*. New York: McGraw-Hill.

O'Muircheartaigh, C.A., Krosnick, J.A. and Helic, A. (2001). Middle alternatives, acquiescence, and the quality of questionnaire data, Annual Meeting of American Association for Public Opinion Research. Irving B. Harris Graduate School of Public Policy Studies, University of Chicago Chicago, USA, Fort Lauderdale, FL.

Olson, M.A. and Fazio, R.H. (2008). Implicit and explicit measures of attitudes: The perspective of the MODE model. In: Petty, R.E., Fazio, R.H. and Briñol, P. *Attitudes: Insights from the new implicit measures*, pp. 19-63. New York: Psychology Press.

Olsson, L., Hemlin, S. and Pousette, A. (2012). A multi-level analysis of leader–member exchange and creative performance in research groups. *The Leadership Quarterly* **23**(3), pp. 604-619.

Onsi, M. (1973). Factor analysis of behavioral variables affecting budgetary slack. *The Accounting Review* **48**(3), pp. 535-548.

Oppenheim, A.N. (2000). *Questionnaire design, interviewing and attitude measurement*. 2nd ed. New York: Continuum.

Oppenheimer, D.M., Meyvis, T. and Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology* **45**(4), pp. 867-872.

Osborne, J.D., Stubbart, C.I. and Ramaprasad, A. (2001). Strategic groups and competitive enactment: A study of dynamic relationships between mental models and performance. *Strategic Management Journal* **22**(5), pp. 435-454.

Parameswaran, R. and Yaprak, A. (1987). A cross-national comparison of consumer research measures. *Journal of International Business Studies* **18**(1), pp. 35-49.

Parry, H.J. and Crossley, H.M. (1950). Validity of responses to survey questions. *Public Opinion Quarterly* **14**(1), pp. 61-80.

Pellegrini, E.K. and Scandura, T.A. (2006). Leader–member exchange (LMX), paternalism, and delegation in the Turkish business culture: An empirical investigation. *Journal of International Business Studies* **37**(2), pp. 264-279.

Penrose, E.T. (1959). *The theory of the growth of the firm*. Oxford: Blackwell.

Peter, J.P. (1981). Construct validity: A review of basic issues and marketing practices. *Journal of Marketing Research* **18**(2), pp. 133-145.

Peteraf, M.A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal* **14**(3), pp. 179-191.

Peterson, R.A. (2001). On the use of college students in social science research: Insights from a second-order meta-analysis. *Journal of Consumer Research* **28**(3), pp. 450-461.

Petrou, P., Bakker, A.B. and Van den Heuvel, M. (2017). Weekly job crafting and leisure crafting: Implications for meaning-making and work engagement. *Journal of Occupational and Organizational Psychology* **90**(2), pp. 129-152.

Pettigrew, A.M. (1992). On studying managerial elites. *Strategic management journal* **13**(S2), pp. 163-182.

Petty, R.E., Briñol, P. and DeMarree, K.G. (2007). The Meta–Cognitive Model (MCM) of attitudes: Implications for attitude measurement, change, and strength. *Social Cognition* **25**(5), pp. 657-686.

Petty, R.E., Wegener, D.T. and Fabrigar, L.R. (1997). Attitudes and attitude change. *Annual Review of Psychology* **48**(1), pp. 609-647.

Pitcher, P. and Smith, A.D. (2001). Top management team heterogeneity: Personality, power, and proxies. *Organization Science* **12**(1), pp. 1-18.

Piva, M. and Vivarelli, M. (2009). The role of skills as a major driver of corporate R&D. *International Journal of Manpower* **30**(8), pp. 835-852.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology* **88**(5), pp. 879-903.

Podsakoff, P.M., MacKenzie, S.B. and Podsakoff, N.P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology* **63**pp. 539-569.

Porac, J.F., Thomas, H. and Baden-Fuller, C. (1989). Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies* **26**(4), pp. 397-416.

Priem, R.L. and Butler, J.E. (2001). Is the resource-based "view" a useful perspective for strategic management research? *Academy of Management Review* **26**(1), pp. 22-40.

Priem, R.L., Lyon, D.W. and Dess, G.G. (1999). Inherent limitations of demographic proxies in top management team heterogeneity research. *Journal of Management* **25**(6), pp. 935-953.

Raaijmakers, Q.A. (2000). Adolescents' midpoint responses on likert-type scale items: neutral or missing values? *International Journal of Public Opinion Research* **12**(2), pp. 209-217.

Raghuram, S., Gajendran, R.S., Liu, X. and Somaya, D. (2017). Boundaryless LMX: Examining LMX's impact on external career outcomes and alumni goodwill. *Personnel Psychology* **70**(2), pp. 399-428.

Rasbash, J., Steele, F., Browne, W. and Prosser, B. (2017). *A user's guide to MLwiN*. Bristol: University of Bristol.

Ray, G., Barney, J.B. and Muhanna, W.A. (2004). Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource-based view. *Strategic Management Journal* **25**(1), pp. 23-37.

Raykov, T. (1997). Estimation of composite reliability for congeneric measures. *Applied Psychological Measurement* **21**(2), pp. 173-184.

Reger, R.K. and Huff, A.S. (1993). Strategic groups: A cognitive perspective. *Strategic Management Journal* **14**(2), pp. 103-123.

Reise, S.P., Waller, N.G. and Comrey, A.L. (2000). Factor analysis and scale revision. *Psychological Assessment* **12**(3), pp. 287-297.

Rhoades, L. and Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology* **87**(4), pp. 698-714.

Robins, R.W., Fraley, R.C. and Krueger, R.F. (2007). *Handbook of research methods in personality psychology*. New York: Guilford Press.

Roth, K. and O'Donnell, S. (1996). Foreign subsidiary compensation strategy: An agency theory perspective. *Academy of Management Journal* **39**(3), pp. 678-703.

Rousseau, D.M. (1990). New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *Journal of Organizational Behavior* **11**(5), pp. 389-400.

Rousseau, D.M., Sitkin, S.B., Burt, R.S. and Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review* **23**(3), pp. 393-404.

Rugman, A.M. and Verbeke, A. (2002). Edith Penrose's contribution to the resource-based view of strategic management. *Strategic Management Journal* **23**(8), pp. 769-780.

Ruppel, C.P. and Harrington, S.J. (2000). The relationship of communication, ethical work climate, and trust to commitment and innovation. *Journal of Business Ethics* **25**(4), pp. 313-328.

Saris, W.E. and Gallhofer, I.N. (2014). *Design, evaluation, and analysis of questionnaires for survey research*. 2nd ed. Hoboken, New Jersey: John Wiley & Sons.

Sarmiento, T.P., Laschinger, H.K.S. and Iwasiw, C. (2004). Nurse educators' workplace empowerment, burnout, and job satisfaction: Testing Kanter's theory. *Journal of Advanced Nursing* **46**(2), pp. 134-143.

Schaeffer, N.C. and Presser, S. (2003). The science of asking questions. *Annual Review of Sociology* **29** pp. 65-88.

Schaffer, B.S. and Riordan, C.M. (2003). A review of cross-cultural methodologies for organizational research: A best-practices approach. *Organizational Research Methods* **6**(2), pp. 169-215.

Schaufeli, W.B., Bakker, A.B. and Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior* **30**(7), pp. 893-917.

Scheaffer, R.L., Mendenhall III, W., Ott, R.L. and Gerow, K.G. (2011). *Elementary survey sampling*. Boston, MA: Cengage Learning.

Scheier, M.F., Carver, C.S. and Bridges, M.W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology* **67**(6), pp. 1063.

Schmitt, N. and Stuits, D.M. (1985). Factors defined by negatively keyed items: The result of careless respondents? *Applied Psychological Measurement* **9**(4), pp. 367-373.

Schoorman, F.D., Mayer, R.C. and Davis, J.H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review* **32**(2), pp. 344-354.

Schriesheim, C.A., Kopelman, R.E. and Solomon, E. (1989). The effect of grouped versus randomized questionnaire format on scale reliability and validity: A

three-study investigation. *Educational and Psychological Measurement* **49**(3), pp.487-508.

Schuman, H. and Presser, S. (1996). *Questions and answers in attitude surveys: Experiments on question form, wording, and context*. California: Sage Publications.

Scott, S.G. and Bruce, R.A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal* **37**(3), pp. 580-607.

Sears, D.O. (1986). College sophomores in the laboratory: Influences of a narrow data base on social psychology's view of human nature. *Journal of Personality and Social Psychology* **51**(3), pp. 515-530.

Seifert, B., Morris, S.A. and Bartkus, B.R. (2003). Comparing big givers and small givers: Financial correlates of corporate philanthropy. *Journal of Business Ethics* **45**(3), pp. 195-211.

Sethi, R., Smith, D.C. and Park, C.W. (2001). Cross-functional product development teams, creativity, and the innovativeness of new consumer products. *Journal of Marketing Research* **38**(1), pp. 73-85.

Shapiro, S.P. (2005). Agency theory. *Annual Review of Sociology* **31**, pp. 263-284.

Sharfman, M.P., Wolf, G., Chase, R.B. and Tansik, D.A. (1988). Antecedents of organizational slack. *Academy of Management Review* **13**(4), pp. 601-614.

Shipp, A.J., Edwards, J.R. and Lambert, L.S. (2009). Conceptualization and measurement of temporal focus: The subjective experience of the past, present, and future. *Organizational Behavior and Human Decision Processes* **110**(1), pp. 1-22.

Shoss, M.K., Eisenberger, R., Restubog, S.L.D. and Zagenczyk, T.J. (2013). Blaming the organization for abusive supervision: The roles of perceived organizational support and supervisor's organizational embodiment. *Journal of Applied Psychology* **98**(1), pp. 158-168.

Siemsen, E., Roth, A. and Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods* **13**(3), pp. 456-476.

Simon, H.A. (1957a). *Administrative behavior; a study of decision-making processes in administrative organization*. 2nd ed. New York: Macmillan.

Simon, H.A. (1957b). *Models of man: Social and rational; mathematical essays on rational human behavior in society setting*. New York: Wiley.

Simsek, Z., Veiga, J.F. and Lubatkin, M.H. (2007). The impact of managerial environmental perceptions on corporate entrepreneurship: Towards understanding discretionary slack's pivotal role. *Journal of Management Studies* **44**(8), pp.1398-1424.

Singh, J.V. (1986). Performance, slack, and risk taking in organizational decision making. *Academy of Management Journal* **29**(3), pp. 562-585.

Sirmon, D.G., Hitt, M.A. and Ireland, R.D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review* **32**(1), pp. 273-292.

Smircich, L. and Stubbart, C. (1985). Strategic management in an enacted world. *Academy of Management Review* **10**(4), pp. 724-736.

Smith, K.G., Smith, K.A., Sims Jr, H.P., O'Bannon, D.P., Scully, J.A. and Olian, J.D. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly* **39**(3), pp.412-438.

Sparrow, P. (1999). Strategy and cognition: Understanding the role of management knowledge structures, organizational memory and information overload. *Creativity and Innovation Management* **8**(2), pp. 140-148.

Spector, P.E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *American Journal of Community Psychology* **13**(6), pp. 693-713.

Spector, P.E. (1992). *Summated rating scale construction: An introduction*. California: Sage Publications.

Spector, P.E. (2006). Method variance in organizational research truth or urban legend? *Organizational Research Methods* **9**(2), pp. 221-232.

Spector, P.E., Jex, S.M. and Chen, P.Y. (1995). Relations of incumbent affect-related personality traits with incumbent and objective measures of characteristics of jobs. *Journal of Organizational Behavior* **16**(1), pp. 59-65.

Spector, P.E., Van Katwyk, P.T., Brannick, M.T. and Chen, P.Y. (1997). When two factors don't reflect two constructs: How item characteristics can produce artifactual factors. *Journal of Management* **23**(5), pp. 659-677.

Spector, P.E., Zapf, D., Chen, P.Y. and Frese, M. (2000). Why negative affectivity should not be controlled in job stress research: Don't throw out the baby with the bath water. *Journal of Organizational Behavior* **21**(1), pp. 79-95.

Spreitzer, G.M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal* **39**(2), pp. 483-504.

Spreitzer, G.M. and Mishra, A.K. (1999). Giving up control without losing control. *Group & Organization Management* **24**(2), pp. 155-187.

Stan, C., Peng, M.W. and Bruton, G. (2014). Slack and the performance of state-owned enterprises. *Asia Pacific Journal of Management* **31**(2), pp. 473-495.

Steenkamp, J.B.E.M. and Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research* **25**(1), pp. 78-90.

Steenkamp, J.B.E.M. and Burgess, S.M. (2002). Optimum stimulation level and exploratory consumer behavior in an emerging consumer market. *International Journal of Research in Marketing* **19**(2), pp. 131-150.

Steenkamp, J.B.E.M and Van Trijp, H.C. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing* **8**(4), pp. 283-299.

Steensma, H.K. and Corley, K.G. (2001). Organizational context as a moderator of theories on firm boundaries for technology sourcing. *Academy of Management Journal* **44**(2), pp. 271-291.

Steffens, N.K., Mols, F., Haslam, S.A. and Okimoto, T.G. (2016). True to what We stand for: Championing collective interests as a path to authentic leadership. *The Leadership Quarterly* **27**(5), pp. 726-744.

Stegeman, A. and Lam, T.T. (2016). Multi-set factor analysis by means of Parafac2. *British Journal of Mathematical and Statistical Psychology* **69**(1), pp. 1-19.

Stiglitz, J. (2003). Dealing with debt: How to reform the global financial system. *Harvard International Review* (1), pp. 54-59.

Stock, R., Six, B. and Zacharias, N. (2013). Linking multiple layers of innovation-oriented corporate culture, product program innovativeness, and business performance: A contingency approach. *Journal of the Academy of Marketing Science* **41**(3), pp. 283-299.

Sudman, S., Sirken, M.G. and Cowan, C.D. (1988). Sampling rare and elusive populations. *Science* **240**(4855), pp. 991-996.

Surroca, J., Prior, D. and Tribo, J.A. (2016). Using panel data DEA to measure CEOs' focus of attention: An application to the study of cognitive group membership and performance. *Strategic Management Journal* **37**(2), pp. 370-388.

Swain, S.D., Weathers, D. and Niedrich, R.W. (2008). Assessing three sources of misresponse to reversed Likert items. *Journal of Marketing Research* **45**(1), pp. 116-131.

Tabachnick, B.G. and Fidell, L.S. (2013). *Using multivariate statistics*. 6th ed. Boston: Pearson Education.

Tan, J. and Peng, M.W. (2003). Organizational slack and firm performance during economic transitions: Two studies from and emerging economy. *Strategic Management Journal* **24**(13), pp. 1249-1263.

Tesser, A., Martin, L. and Mendolia, M. (1995). The impact of thought on attitude extremity and attitude-behavior consistency. In: Petty, R.E. and Krosnick, J.A. *Attitude Strength: Antecedents and Consequences*, vol. 4, pp. 73-92. Hillsdale, NJ: Lawrence Erlbaum Associates.

Tett, R.P. and Christiansen, N.D. (2007). Personality tests at the crossroads: A response to Morgeson, Campion, Dipboye, Hollenbeck, Murphy, and Schmitt (2007). *Personnel Psychology* **60**(4), pp. 967-993.

Thompson, J.D. (1967). *Organizations in action; social science bases of administrative theory*. New York: McGraw-Hill.

Thomson, N. and Millar, C.C.J.M. (2001). The role of slack in transforming organizations: A comparative analysis of East German and Slovenian companies. *International Studies of Management & Organization* **31**(2), pp. 65-83.

Thurstone, L.L. (1928). Attitudes can be measured. *American Journal of Sociology* **33**(4), pp. 529-554.

Tottie, G. (1991). *Negation in English speech and writing: A study in variation*. San Diego, CA: Academic Press.

Tourangeau, R. and Rasinski, K.A. (1988). Cognitive processes underlying context effects in attitude measurement. *Psychological Bulletin* **103**(3), pp. 299-314.

Tourangeau, R., Rips, L.J. and Rasinski, K. (2000). *The psychology of survey response*. Cambridge, UK: Cambridge University Press.

Tourangeau, R., Singer, E. and Presser, S. (2003). Context effects in attitude surveys: Effects on remote items and impact on predictive validity. *Sociological Methods & Research* **31**(4), pp. 486-513.

Troilo, G., De Luca, L.M. and Atuahene-Gima, K. (2014). More innovation with less? A strategic contingency view of slack resources, information search, and radical innovation. *Journal of Product Innovation Management* **31**(2), pp. 259-277.

Tseng, C.H., Tansuhaj, P., Hallagan, W. and McCullough, J. (2007). Effects of firm resources on growth in multinationality. *Journal of International Business Studies* **38**(6), pp. 961-974.

Tyler, B.B. and Steensma, H.K. (1995). Evaluating technological collaborative opportunities: A cognitive modeling perspective. *Strategic Management Journal* **16**(S1), pp. 43-70.

Uhlmann, E.L., Leavitt, K., Menges, J.I., Koopman, J., Howe, M. and Johnson, R.E. (2012). Getting explicit about the implicit: A taxonomy of implicit measures and guide for their use in organizational research. *Organizational Research Methods* **15**(4), pp. 553-601.

Vanacker, T., Collewaert, V. and Paeleman, I. (2013). The relationship between slack resources and the performance of entrepreneurial firms: The role of venture capital and angel investors. *Journal of Management Studies* **50**(6), pp. 1070-1096.

Velicer, W.F. and Jackson, D.N. (1990). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. *Multivariate Behavioral Research* **25**(1), pp. 1-28.

Venkatraman, N. and Grant, J.H. (1986). Construct measurement in organizational strategy research: A critique and proposal. *Academy of Management Review* **11**(1), pp. 71-87.

Vogel, T. and Wanke, M. (2016). *Attitudes and attitude change*. New York: Psychology Press.

Voss, G.B., Sirdeshmukh, D. and Voss, Z.G. (2008). The effects of slack resources and environmental threat on product exploration and exploitation. *Academy of Management Journal* **51**(1), pp. 147-164.

Wales, W.J., Patel, P.C. and Lumpkin, G.T. (2013). In pursuit of greatness: CEO narcissism, entrepreneurial orientation, and firm performance variance. *Journal of Management Studies* **50**(6), pp. 1041-1069.

Walsh, J.P. (1995). Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science* **6**(3), pp. 280-321.

Walsh, J.P. and Ungson, G.R. (1991). Organizational memory. *Academy of Management Review* **16**(1), pp. 57-91.

Walumbwa, F.O., Avolio, B.J., Gardner, W.L., Wernsing, T.S. and Peterson, S.J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management* **34**(1), pp. 89-126.

Wasti, S.A., Tan, H.H., Brower, H.H. and Önder, Ç. (2007). Cross-cultural measurement of supervisor trustworthiness: An assessment of measurement invariance across three cultures. *The Leadership Quarterly* **18**(5), pp. 477-489.

Watson, D. and Clark, L.A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin* **96**(3), pp. 465-490.

Watson, D., Clark, L.A. and Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology* **54**(6), pp. 1063-1070.

Watson, D., Pennebaker, J.W. and Folger, R. (1987). Beyond negative affectivity: Measuring stress and satisfaction in the workplace. *Journal of Organizational Behavior Management* **8**(2), pp. 141-158.

Way, S.A., Tracey, J.B., Fay, C.H., Wright, P.M., Snell, S.A., Chang, S. and Gong, Y. (2015). Validation of a multidimensional HR flexibility measure. *Journal of Management* **41**(4), pp. 1098-1131.

Webb, A. and Peck, J. (2015). Individual differences in interpersonal touch: On the development, validation, and use of the "comfort with interpersonal touch" (CIT) scale. *Journal of Consumer Psychology* **25**(1), pp. 60-77.

Webster, J.R., Adams, G.A. and Beehr, T.A. (2014). Core work evaluation: The viability of a higher-order work attitude construct. *Journal of Vocational Behavior* **85**(1), pp. 27-38.

Weijters, B., Baumgartner, H. and Schillewaert, N. (2013). Reversed item bias: An integrative model. *Psychological Methods* **18**(3), pp. 320-334.

Weijters, B., Cabooter, E. and Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing* **27**(3), pp. 236-247.

Weijters, B., De Beuckelaer, A. and Baumgartner, H. (2014). Discriminant validity where there should be none: Positioning same-scale items in separated blocks of a questionnaire. *Applied Psychological Measurement* **38**(6), pp. 450-463.

Weijters, B., Geuens, M. and Schillewaert, N. (2009). The proximity effect: The role of inter-item distance on reverse-item bias. *International Journal of Research in Marketing* **26**(1), pp. 2-12.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal* **5**(2), pp. 171-180.

Widaman, K.F. (1985). Hierarchically nested covariance structure models for multitrait-multimethod data. *Applied Psychological Measurement* **9**(1), pp. 1-26.

Wiersma, E. (in press). How and when do firms translate slack into better performance? *The British Accounting Review*.

Williams, L.J. and Anderson, S.E. (1994). An alternative approach to method effects by using latent-variable models: Applications in organizational behavior research. *Journal of Applied Psychology* **79**(3), pp. 323-331.

Williamson, O.E. (1963). Managerial discretion and business behavior. *The American Economic Review* **53**(5), pp. 1032-1057.

Williamson, O.E. (1964). *The economics of discretionary behavior: Managerial objectives in a theory of the firm*. Englewood Cliffs: Prentice-Hall.

Williamson, O.E. (1993). Calculativeness, trust, and economic organization. *The Journal of Law and Economics* **36**(1), pp. 453-486.

Wilson, T.D. and Brekke, N. (1994). Mental contamination and mental correction: Unwanted influences on judgments and evaluations. *Psychological Bulletin* **116**(1), pp. 117-142.

Wilson, T.D., Lindsey, S. and Schooler, T.Y. (2000). A model of dual attitudes. *Psychological Review* **107**(1), pp. 101.

Wong, N., Rindfleisch, A. and Burroughs, J.E. (2003). Do reverse-worded items confound measures in cross-cultural consumer research? The case of the material values scale. *Journal of Consumer Research* **30**(1), pp. 72-91.

Wright, T. A. and Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *Journal of Applied Psychology* **83**(3), pp. 486-493.

Yoon, D. J. and Bono, J. E. (2016). Hierarchical power and personality in leader-member exchange. *Journal of Managerial Psychology* **31**(7), pp. 1198-1213.

Yousef, D.A. (2000). Organizational commitment: A mediator of the relationships of leadership behavior with job satisfaction and performance in a non-western country. *Journal of Managerial Psychology* **15**(1), pp. 6-24.

Zavalloni, M. and Cook, S.W. (1965). Influence of judges' attitudes on ratings of favorableness of statements about a social group. *Journal of Personality and Social Psychology* **1**(1), pp. 43-54.